THE INDIAN SUGAR INDUSTRY–

(1944 ANNUAL)

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Allen Berry & Co., Ltd.			C
Anand Sugar Mills Ltd.		B	
Arthur Butler & Co. (Moz.) Ltd.	A		
Assam Bengal Cement Co., Ltd.		B	
Avery, Ltd., W. & T.	A		
B			
Balmer Lawrie & Co., Ltd.	A		
Bank of Behar, Ltd.	A		
Basti Sugar Mills Co., Ltd.	A		
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Behar Sugar Works.	A		
Bestolite Moulding Co.	A		
Bhadani Brothers Ltd.			C
Bhagat Singh Bugga & Co.			C
Bharat Fire & General Insurance Co., Ltd.	A		
Bharatia Bros.	A		
B. B. & C. I. Railway.			C
Bombay Enamel Works, Ltd.	A		
Bombay Metal & Alloys Mfg. Co., Ltd.		B	
Bombay Soap Factory.		B	
Brady & Co., Ltd., W. H.	A		
Brushware, Ltd.	A		
C			
Cement Marketing Co. of India Ltd.			*IV Cover page*
Chemical, Industrial & Pharmaceutical Laboratories, Ltd.		B	
Choonilal Manilal, Ltd.	A		
Commercial Insurance Co., Ltd.		B	
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Datt & Sons, Ltd., H.	A		
Delhi Cloth & General Mills Co., Ltd.		B	
Devkaran Nanjee Banking Co., Ltd.			C
Director of Industries, Bengal.	A		
Dyer's Stone Lime Co., Ltd.		B	
E			
E. I. & B. & A. Railways.	A		
Estrela Batteries, Ltd.	A		
Excelsior Finishing Products Co., Ltd.			C
Eyre Smelting Co., Ltd.		B	
G			
Ganesh Sugar Mills Ltd.		B	
Ganges Rope Co., Ltd.		B	
Gannon Dunkerley & Co., Ltd.		B	
Garlick & Co.	A		
Gas & Metal Operators.	A		
Goodyear Tyre & Rubber Co. (India) Ltd.		B	
Great Indian Peninsula Railway.		B	
Greaves Cotton & Co., Ltd.		B	
Gujarat Paper Mills.	A		
H			
Hadfield's (India) Ltd.	A		
Harinagar Sugar Mills, Ltd.	A		
Harley & Co., F.		B	
Hind Tank Mfg. Co.			C
Hindustan Commercial Bank, Ltd.		B	
Hindustan Mercantile Bank, Ltd.	A		
Hindustan Sugar Mills, Ltd.		B	
I			
India Collective Farms, Ltd.		B	
India Electric Works, Ltd.			C
India Machinery Co., Ltd.	A		
Indian Cable Co., Ltd.	A		
Indian Hume Pipe Co. Ltd.			C
Indian Metal Refinery Co., Ltd.	A		
Indian Smelting & Refining Co., Ltd.	A		
Indian Standard Metal Co., Ltd.	A		
Indian Steel & Wire Products, Ltd.	A		
Indian Tea Market Expansion Board.		B	
Indian Tool Manufacturers, Ltd.			C
Indo-Commercial Bank, Ltd.			C
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Jupiter Insurance Co., Ltd.	A		
Jyoti Co., Ltd.		B	
K			
Kamani Metals.		B	
Kantawala Nanavati & Co., Ltd.			C
Kesar Sugar Works, Ltd.			C
Kilburn & Co.			C
Kumardhubi Engineering Works, Ltd.		B	
Kumardhubi Fireclay & Silica Works, Ltd.	A		
L			
Laxshmi Insurance Co., Ltd.	A		
Lakshmji Sugar Mills Co., Ltd.		B	
Lallubhai Amichand.	A		
Laxmi Bank, Ltd.		B	
Lever Brothers (India) Ltd.		B	
Lister Antiseptics & Dressings Co. (1928) Ltd.	A		
Lucas Indian Service, Ltd.	A		
M			
Madras & Southern Mabratta Railway.			C
Mahalaxmi Cotton Mills, Ltd.	A		
Maharashtra Sugar Mills, Ltd.	A		
Modi Industries.		B	
Mohamedalli & Co., Quettawalla.		B	
Motilal Padampat Sugar Mills Co., Ltd.		B	
Mukand Iron & Steel Works, Ltd.		B	
Mysore Iron & Steel Works.	A		
Mysore Sugar Co., Ltd.		B	
N			
Nanalal Ambalal & Co.			C
Narang Industries, Ltd.	A		
National Art Silk Mills, Ltd.	A		
National Engineering Works.		B	
National Savings Bank, Ltd.		B	
Nawabganj Sugar Mills Co., Ltd.	A		
New Era Textile Mills, Ltd.	A		
New Great Insurance Co., of India Ltd.		B	
New India Assurance Co., Ltd.	A		
Nizam Sugar Factory, Ltd.	A		
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Oriental Govt. Security Life Assurance Co., Ltd.	A		
Oudh Sugar Mills, Ltd.	A		
P			
Parry & Co., Ltd.			C
Phaltan Sugar Works, Ltd.	A		
Pioneer Magnesia Works, Ltd.	A		
Playfair & Co., G. F.	A		
Port Engineering Works, Ltd.		B	
Praga Tools Corporation, Ltd.	A		
Prospect Trading Co.	A		
Punjab National Bank, Ltd.	A		
R			
Ramco Chemical Works.			C
Ravalgaon Sugar Farm, Ltd.		B	
Reliance Firebrick & Pottery Co., Ltd.			C
S			
Saswad Mali Sugar Factory, Ltd.	A		
Scientific Indian Glass Co., Ltd.			C
Shalebhoy Tyebjee & Sons.		B	
Shalimar Paint, Colour & Varnish Co., Ltd.		B	
Shaparia Iron & Steel Works, Ltd.	A		C
Shri Ambica Steam Navigation Co., Ltd.	A		
Silvertown Lubricants (India) Ltd.	A		
S. K. F. Ball Bearing Co., Ltd.			*Cover page II*
South Behar Sugar Mills, Ltd.			C
Standard Vacuum Oil Co.	A		
Swaika Chemical & Mineral Co., Ltd.			*Cover page III*
Swastika Confectionery.			C
Sylhet Lime Co., Ltd.	A		
Syntetic India, Ltd.			C
U			
United Commercial Bank, Ltd.		B	
V			
Vizagapatam Sugar Refinery Co.	A		
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W			
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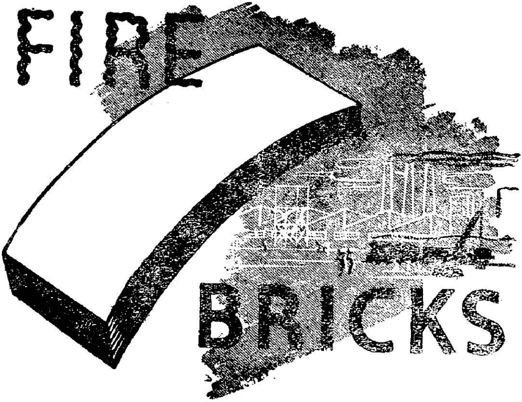

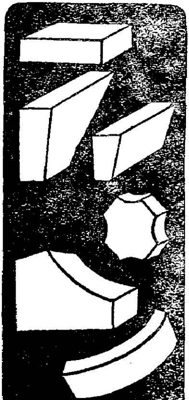

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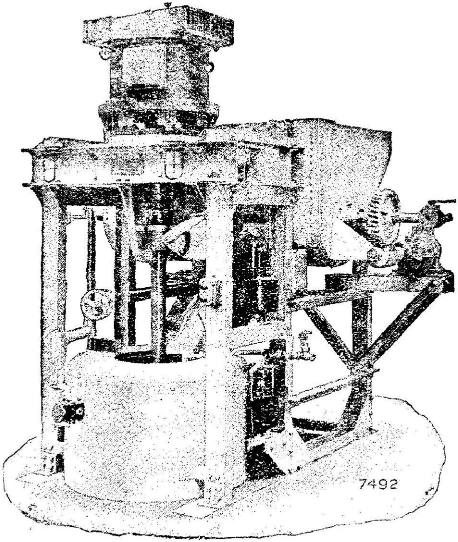

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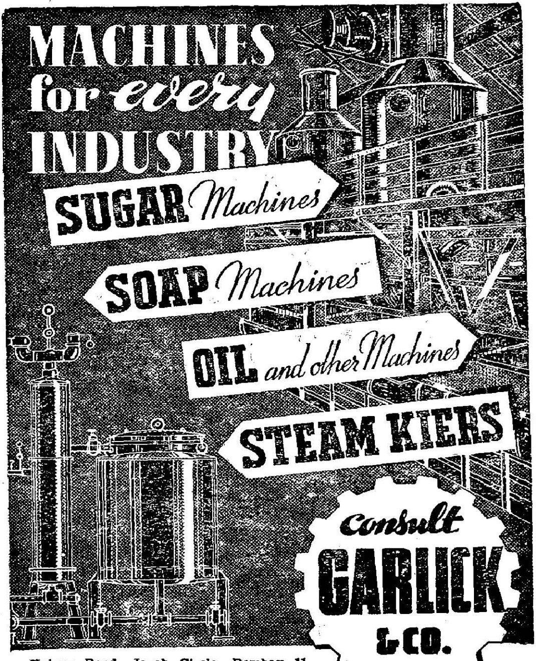

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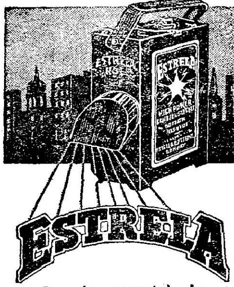

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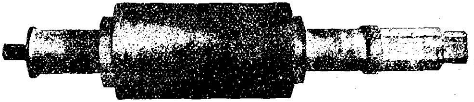

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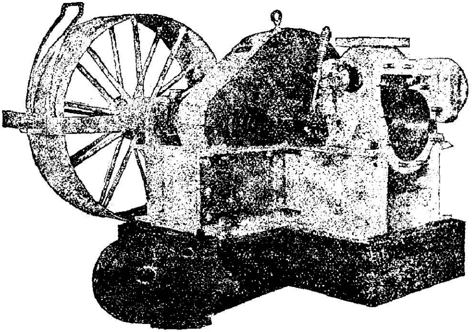

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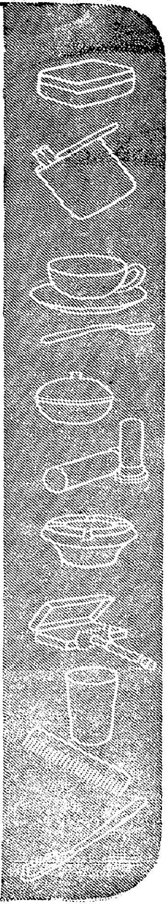

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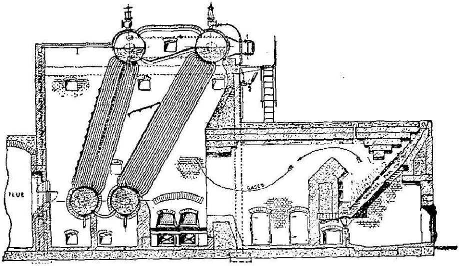

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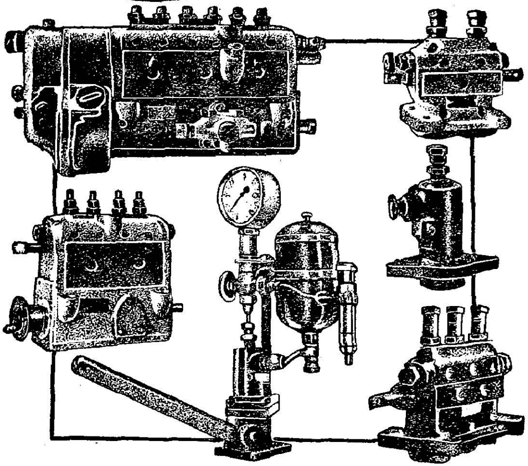

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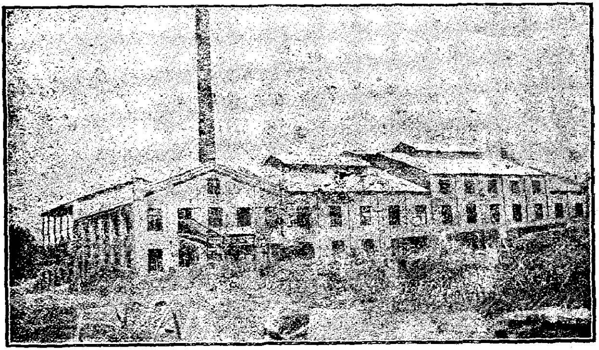

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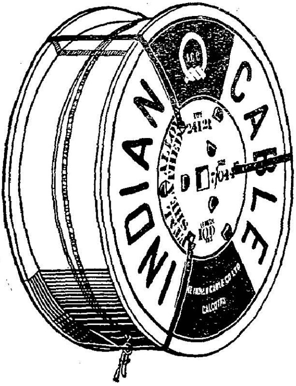

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PREFACE

The 1943-44 season established a war-time record for production of sugar as a consequence of the drive for maximisation of sugar production in India in spite of numerous handicaps of various kinds due to the war-period. The production in 1944-45, however, could not be maintained at this level and indeed recorded a precipitate fall from the record production of 12,16,400 tons in 1943-44 to only 9,85,100 tons in 1944-45. The fall was due largely to shortage of cane and the low minimum prices of cane fixed by the Governments of U. P. and Bihar, coupled with the system of a compulsory deduction of two annas per maund of cane for investment in Defence Saving Certificates. Later in the season, this compulsory deduction was abolished, and this gives reason to hope for some improvement in the forthcoming season. The cane crushing season both in U. P. and Bihar opened late and closed early in 1945. The production in Bengal also went down considerably due to lack of cane. A decrease of production is also to be recorded for Bombay, due partly to the legislation for compulsory cultivation of food crops, under the Bombay Growth of Food Crop Act, 1944, even in sugar factory areas.

The area under cane for the forthcoming season is well over 41 lakhs acres (which is of course less than 2 per cent of the cultivated area in India) and with the measures contemplated by the Government for the restriction of manufacture of *gur* in Reserved areas of factories in U. P. and Bihar, (on the understanding that factories will take over all cane in these areas for crushing) in order to maximum the production of sugar, and the reported possibility of fixing higher price for sugar manufactured in Bengal in the 1945-46 season, we feel that the production of sugar in the 1945-46 season, can be safely put at over 11 lakhs tons.

Liberal Ration of Sugar possible

In spite of a potential crushing capacity for production of 15 lakhs tons of sugar from the existing 150 factories, we have produced a very much smaller quantity of sugar during the last few years, due to shortage of cane, disorganisation in transport, lack of raw materials, short crushing season, etc. With the revival in the demand for sugar as a result of the increase in the purchasing power of people in the war-period, the congregation of people in cities and the increased tea-habit, we may well need a larger quantity of sugar, both for meeting internal demand and for export to adjacent countries, like Burma, Ceylon, Persia, Middle East, etc. Although according to present official pronouncements, rationing of food might remain for a couple of years, we feel that it might be possible to liberalise the ration of sugar all over the country, if with the removal of war-time restrictions on transport, and the pursuance of a well regulated drive, we are able to produce more sugar in and from the forthcoming season.

Expansion of Industry Inevitable

Such increased production, we are convinced, is also necessary for improving the nutrition and standard of living of the people. And sugar, which is an energising food of high calorific value containing 100 per cent

carbo-hydrates, would be very useful in this respect, if larger quantities are made available to the people. We, therefore, feel that before long India will have to think of utilising her present capacity fully and also of establishing more sugar factories in India both for internal requirements and export. Particularly because, the world sugar production has gone down from its pre-war level of 30 million tons to only 19 million tons in 1944-45, and it will take a long time for the old level of production to be established, due to the damage and dislocation caused in various sugar producing countries like Java, Philippines, Russia, Czechoslovakia, etc., India has an opportunity of playing a more important role in the sugar-world by supplying large quantities of sugar.

Need for Dispersal of Industry

We feel that, when this opportunity for expansion of the industry comes, it should be properly availed of for a suitable dispersal of the industry all over the country. As is well known, there is a concentration of the sugar factories in U. P. and Bihar, and in order to achieve a balanced development of industry and to relieve the strain on transport services as much as possible, we suggest that any further expansion of the industry should be outside U. P. and Bihar, particularly, in Bombay, Madras, Bengal, and other areas which are areas of deficit production. To this end, we recommend that a central licensing system for establishment of factories should be introduced at an early date by the Government of India.

Protection to Sugar must be Continued

The period of the present protection accorded to the sugar industry will expire on 31st March, 1946. It is not possible, however, under the present abnormal conditions, to consider with precision the quantum of protection required for the future. We suggest, therefore, that the present protection should be continued for a period of three years, towards the end of which a Tariff Board should be appointed to make the necessary enquiries and to recommend the quantum of protection and the period for which it will be necessary. When that time comes, we hope the Tariff Board and the Government will appreciate the great part played by the industry in supplying sugar, during the last few years, particularly in the war-period, without any attempt at profiteering. Indeed, it should also be recognised that under the Government Control, the industry had no opportunity of having suitable reserves for replacement and renewal of machinery. As a matter of fact, owing to the short crush during the last year, several factories will be unable to declare dividends, due to the increased cost of manufacture which was not fully allowed for in fixing the prices of sugar in the last season. We hope and trust that the Government will view this matter liberally and fix a suitable selling price of sugar, which will allow the industry to earn a fair profit on the investment.

Reduction in Cost of Production of Sugar

We also hope and trust that, as the period of expiry of protection is drawing near, the Government of India as well as the Provincial Governments in full co-operation with the industry will redouble their efforts for decreasing the cost of production of sugar and direct their immediate attention to the most important measures towards that end, viz., decreasing the cost of cul-

tivation of cane which accounts for over 50 per cent of the price of sugar, by increasing the yield of sugarcane per acre from its present average of 15 tons to at least 30 to 35 tons by provision of irrigation which alone is calculated to increase the production by over 50 per cent, by better manure, artificial fertilisers and improved seeds accompanied by sound cultural practices, by better implements, control over diseases and pests, and by a proper utilisation of molasses in the manufacture of power-alcohol for admixture with petrol. These problems have been discussed in detail in this *Annual*.

Increased Expenditure on Research Essential

To this end, we also suggest with all the emphasis at our command that the Government of India should earmark a sum of As. 3 per Cwt. from the excise duty on sugar (in place of 1 anna at present) for carrying on research work, and should place the amount at the disposal of the Indian Central Sugarcane Committee. The fund thus available will be of the order of about 40 lakhs of rupees which will work out to Re. 1 per acre, but the expenditure of this amount will, we are convinced, bring multiple profits to agriculture and indeed also to industry.

Manufacture of Power Alcohol

The U. P. and Bihar Joint Power Alcohol Committee (of which the writer had the honour of being a member) strongly recommended in 1938 the utilisation of molasses for the manufacture of power alcohol. Little progress has been made in this matter till date. One peculiar feature, however, of a recent development in utilisation of molasses in the United Provinces has attracted our attention, viz., the production under the orders of the U. P. Government, by a few distilleries established in 1944, of rectified spirit known as fuel alcohol in place of power alcohol and its utilisation as a straight fuel (without admixture with petrol) by motor lorries in the U. P. instead of the use of power alcohol mixture with petrol in the proportion of 15 or 20 or 25 per cent. We only hope that this development in the U. P. was a war-time expedient of a temporary nature. We fervently trust that the Government will at once switch on to the manufacture of power alcohol (as distinguished from rectified spirit) and adopt the practice of compulsory admixture of such power alcohol with petrol as a motor fuel, as in other areas, e.g., Mysore, Hyderabad, Bombay, and thus encourage the development of power alcohol, which besides reducing the cost of production of sugar by a proper utilisation of one of the chief by-products of the industry, will enable the establishment of an industry which will reduce the dependence of the country on petrol, a very large bulk of which is imported annually from outside India.

Optimum Production and Consumption of Sugar

We also feel that it will be possible to increase the production of sugar in the country considerably without increasing the area under cane by increasing the yield of sugarcane per acre. The question of the scope of optimum production and consumption of sugar in India has been discussed in considerable detail in Mr. M. P. Gandhi's forthcoming thesis on, "Problems of Sugar Industry in India—Scope and Prospects of Re-organisation", (375 pages) with a foreword by Sir Purshotamdas Thakurdas, K.B.E., C.I.E., and we invite the readers' attention to this volume which will be published sometime in October, 1945.

We regret that, as in the last year, we have not been able to publish this *Annual* as early in 1945 as was expected. The difficulties of the war-period, the emergence of fresh problems and desire to pass them under review have been partly responsible for the delay of the publication. Another important cause of the delay has been in getting permission from the Central Government for increasing the meagre quota of pages previously sanctioned under the Paper Control (Economy) Order, for this *Annual*. We are glad that ultimately we have succeeded in our efforts and it has been possible for us to publish this year's *Annual* in its present size which compares very favourably with that of the last year. We also hope that in view of the importance of this publication, we will be allowed to return to the normal size of 1943 *Annual*, when we publish our 1945 *Annual*, if the Paper Control (Economy) Order is still operative.

It affords us very great pleasure to find that this *Annual* is continually growing in popularity and that there has been an increasing measure of appreciation of the usefulness of the publication, ever since it was first published in 1935. We are, doubtless, happy at the very highly appreciative references made in the press regarding the usefulness of this *Annual* as the only book of reference containing an authoritative and comprehensive study of the problems of the sugar industry, and discussing all important problems before the industry in an unbiassed, but critical manner, and giving a lead in making practical suggestions for reform in the industry, from year to year. The *Annual* has also been found to be of great use by the various Departments of the Government, Central as well as Provincial.

We will consider ourselves amply rewarded if this publication succeeds in focussing the attention of all interested in the industry, viz., the Government, the manufacturers, the cultivators, the consumers and the general public, to the various important problems before the industry and the remedies therefor, in the post-war period. The present opportunity for consolidating and rationalising the industry should not be lost. The importance of the industry in the national economy need hardly be stressed if it is remembered that it has stopped the drain of about Rs. 16 crores per annum, with the cessation of sugar imports, is supporting no less than 20 million agriculturists whose interests are indissolubly linked up with the future of this industry, has provided a channel for investment to indigenous capital estimated at Rs. 33 crores, and has been responsible for finding employment to no less than 3,000 University men and 1,00,000 labour, skilled and unskilled.

For the sake of ready reference, we have given current important legislative measures pertaining to the industry, and no less than 35 up-to-date statistical tables in an earlier portion of this *Annual*, styled as "The Sugar Industry at a Glance" (i-xxxvi).

Appendix I, gives a complete and up-to-date list of the Sugar Factories in India, showing the location, district, the nearest railway station and the nearest station, the daily cane crushing capacity, and names and addresses, including telegraphic addresses of the Managing Agents or Proprietors.

We take this opportunity of thanking the Director of the Imperial Institute of Sugar Technology, Cawnpore, for the help he has given to us at all times. We are thankful to the Cane Commissioners of U. P. and Bihar and also to the secretaries of the Indian Sugar Syndicate, and the Indian Sugar Mills Association respectively, for the help they have rendered to us in making this publication authoritative and up-to-date.

We would be failing in our duty if we did not acknowledge the very valuable and willing assistance we have always been receiving from Mr. K. R. Malcolm, I.C.S., Chairman, Sugar Commission, U. P. and Bihar, who has furnished us with authoritative material on the industry. It has helped in adding to the value of this *Annual*. We must also acknowledge the unfailing assistance received from the Imperial Council of Agricultural Research, the Directors of Industries, and particularly from Mr. Vishnu Sahay, I.C.S., Sugar Controller for India, who has provided us with much valuable information and statistics.

We have maintained the same style and *format* in this *Annual* as were introduced by Mr. M. P. Gandhi, the Editor of this *Annual*, when the first *Annual* was published in 1935, as it helps the readers and facilitates their looking for information at a particular place. We trust the readers will appreciate this.

We take this opportunity of thanking the various advertisers who have extended assistance to this publication.

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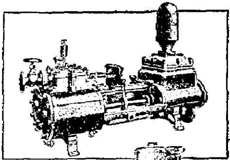

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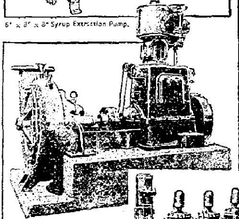

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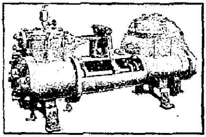

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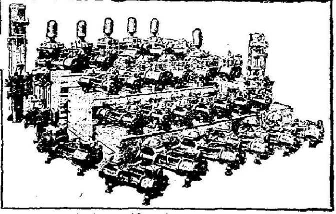

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STATISTICAL TABLES

IN

"THE SUGAR INDUSTRY AT A GLANCE" (1944)

(Revised up to 30th June, 1945)

TABLE No. 1

Number of Cane Factories working in India, including States, and Production of Sugar from Cane Factories, Gur Refineries, Khandsari, Net Import of Sugar in British India and Import in Kathiawar Ports during the last 13 years, and estimates for 1944-45 and 1945-46

Year (November–October)	No. of Cane Factories working in India	Cane Factory Production (November–October)	Sugar Refined from Gur (January–December)	Khandsari (Conjectural estimates) (Nov.-Oct.)	Total Production of Sugar in India (Nov.-Oct.)	Net Imports (Excluding Re-exports) of Sugar in British India (Nov.-Oct.)	Imports of Sugar in Kathiawar Ports (Nov.-Oct.)
		Tons	Tons	Tons	Tons	Tons	Tons
1931-32	32	158,781	69,539	250,000	478,120	438,797	95,678
1932-33	57	290,177	80,106	275,000	645,383	321,081	68,649
1933-34	112	453,965	61,094	200,000	715,059	233,366	87,094
1934-35	130	578,115	39,103	150,000	767,218	197,775	113,364
1935-36	137	932,100	50,067	125,000	1,107,167	86,962	45,218
1936-37	137	1,111,400	19,500	100,000	1,230,900	11,160	12,870
1937-38	136	930,700	16,600	125,000	1,072,300	9,410	12,284
1938-39	139	650,800	14,200	100,000	765,000	254,400	76,819
1939-40	145	1,241,700	31,700	125,000	1,398,400	252,000	85,580
1940-41	148	1,095,400	48,500	125,000	1,268,900	18,778	
1941-42	150	778,100	13,400	150,400	941,900	48,637	
1942-43	150	1,070,700	6,370	117,630	1,294,700	563	
1943-44	151	1,216,400	7,706	80,000	1,304,106	...	
1944-45	144	985,100 (Estimated.)*	7,980 (Estimated.)	80,000	1,073,080 (Estimated)	...	
1945-46	150	1,200,000 (Our Est.)	...	...	...	...	...

* *Vide Indian Trade Journal*, p. 289, dated March 15, 1945.

TABLE No. 2

Comparative growth of the Sugar Industry in the various Provinces since 1931-32, the pre-protection year

(No. of Cane-factories Working)

Province		1931-32	1932-33	1933-34	1934-35	1935-36	1936-37	1937-38	1938-39	1939-40	1940-41	1941-42	1942-43	1943-44	1944-45
United Provinces	...	14	33	59	65	67	68	68	69	70	70	70	71	70	68
Bihar	...	12	19	33	34	35	33	33	32	32	32	31	31	31	29
Punjab, Sind & N.-W. F. P.	...	1	1	5	6	4	5	3	3	3	4	4	4	2	2
Madras	...	2	2	4	8	8	11	8	7	10	11	11	10	12	12
Bombay	...	2	1	4	5	6	6	7	7	7	8	10	9	10	10
Bengal	...	...	...	2	5	6	6	6	8	9	9	9	8	6	4
Orissa	...	...	...	...	...	...	...	2	2	2	2	2	2	2	1
Indian States	...	...	...	4	5	9	8	9	11	11	12	13	15	18	18
Total for India	...	32	57	112	130	137	137	136	139	145	148	150	150	151	144
Burma*	...	1	1	1	2	2	3	2	2	3	3	(a)	(a)	(a)	(a)

* Burma excluded from 1936-37 onwards from the total for India.

(*a*) No information available after occupation of Burma by Japan.

TABLE No. 3

Number of Sugar Factories in various Provinces, working in 1943-44, Estimated quantity of cane crushed, sugar produced and Recovery percentage obtained, etc.

(Official Estimates of the Director, Imperial Institute of Sugar Technology, Cawnpore, published in the Indian Trade Journal, dated 5th October 1944, and 15th March 1945.)

Province	No. of Mills Working	Cane Crushed Tons	Sugar Tons	Sugar-cane Recovery per cent 1943-44
United Provinces	70	7,332,400	727,100	9.92
Bihar	31	2,018,400	212,400	10.53
Punjab, Sind & N.-W. F. P.	2	174,200	17,400	9.99
Madras	12	420,400	39,200	9.32
Bombay	10	739,700	81,200	10.98
Bengal	6	175,900	13,600	7.73
Orissa	2	17,600	1,700	9.66
Indian States	18	1,259,200	123,800	9.83
Total ...	151	12,137,800	1,216,400	10.02

TABLE No. 4

Total, and *per capita* consumption of Sugar and Gur in India*

Year (November-October)	Consumption of Sugar in tons	Official Estimate	Consumption of Gur in tons	*Per Capita Consumption lbs.* Sugar	Gur	Total of Sugar and Gur
				lbs. per head	lbs. per head	lbs. per head
1931-32	982,000	"	2,758,000	6.2	17.2	23.4
1932-33	1,006,000	"	3,240,000	6.3	20.2	26.5
1933-34	996,000	"	3,486,000	6.1	21.5	27.6
1934-35	1,059,000	"	3,701,000	6.5	22.6	29.1
1935-36	1,074,000	"	4,101,000	6.5	24.8	31.3
1936-37	1,167,000	"	4,268,000	7.3	26.7	34.0
1937-38	1,159,000	"	3,364,000	7.2	20.9	28.1
1938-39	1,073,000	"	2,131,000	6.6	13.1	19.7
1939-40	1,019,100	"	2,441,000	6.4	18.0	24.4
1940-41	1,100,000	(Our Est.)	3,410,000	6.7	20.6	27.3
1941-42	1,050,000	"	2,829,000	6.0	18.5	24.5
1942-43†	966,000	"	3,567,000	5.9	20.1	26.0
1943-44†	1,086,300	"	3,989,500	6.5	23.8	30.3

* Total value of sugar, including gur, produced in the year 1943-44 may be estimated at about Rs. 118.33 crores.

Price calculated at the rate of Rs. 15-4-0 per maund of sugar and Rs. 9-6-0 per maund of gur as the standard of average for the whole season.

Maund 82.2/7 lbs. Sugar 15½ Gur 9.1/6

		Tons	Rs. Price
1943-44	Sugar	10,86,300	49,09,65,375
	Gur	39,89,500	69,23,44,479
		Total Value Rs.	1,18,33,09,854

Rs. 118.33 Crores.

† Our estimates.

TABLE No. 5

Per capita consumption of Sugar in various countries

United Kingdom ...	106	lbs.	per head	Cuba ...	88	lbs.	per head
U. S. A. ...	97	"	"	Java ...	11	"	"
Brazil ...	34	"	"	Japan ...	33	"	"
France ...	52	"	"	Union of South Africa	47	"	"
Australia ...	116	"	"	Netherland ...	64	"	"
Germany ...	52	"	"	India ...	27 (including 20 lbs. *Gur*)		

TABLE No. 6

Yearly world production, consumption and the carry-over of stocks of Sugar for the last 10 years in thousand tons (Raw Sugar Value)*

(In Thousands of Long Tons)

Crop year (Sept. 1st to Aug. 31st)	Opening Stocks (Sept. 1st)	Production	Consumption	Closing Stocks (Aug. 31st)	Percentage relation of stocks to Consumption
1931–32	12,362	26,431	26,724	12,069	45.2
1932–33	12,069	24,692	26,193	10,568	40.3
1933–34	10,568	25,709	26,287	9,990	38.0
1934–35	9,990	26,191	27,188	8,993	33.1
1935–36	8,993	28,846	29,231	8,608	29.5
1936–37	8,608	30,818	30,549	8,877	29.1
1937–38	8,877	30,967	29,647	10,197	34.4
1938–39	10,197	29,478	29,406	10,269	34.9
1939–40	10,269	30,753	26,551	11,471	38.8
1940–41	...	30,498	...	...	...
1941–42	...	19,211	...	...	...
1942–43	...	17,908	...	...	...

* Figures are in long tons (Long ton = 2,240 lbs.), (Metric ton = 2,205 lbs.), and (Short ton = 2,000 lbs.).

A glance at the last Table in the 1940 Indian Sugar Industry Annual will show that India leads as the *largest sugar producing country in the world*, since 1931.

TABLE No. 7

Average and maximum percentage of recovery of Sugar in factories in India and Java since 1931-32*

Year	*India* Average	*U. P.* Average	*Bihar* Average	*Bombay* Average	*Java* Average	*India* *Maximum*
1931–32	8.89	8.59	9.06	...	10.92	10
1932–33	8.66	8.55	8.60	10.00	11.56	10
1933–34	8.80	9.08	8.32	10.00	12.84	10
1934–35	8.66	8.56	8.79	10.37	12.55	11.10
1935–36	9.29	9.60	8.93	10.47	13.23	11.34
1936–37	9.50	9.65	9.20	10.68	12.77	11.43
1937–38	9.38	9.18	9.58	10.97	11.87	11.63
1938–39	9.29	9.14	9.00	11.29	11.77	12.25
1939–40	9.45	9.37	9.29	10.97	12.23	12.31
1940–41	9.70	9.87	9.86	9.94	...	11.15
1941–42	9.69	9.87	10.35	9.87	...	12.45
1942–43	10.28	10.16	10.93	10.64	...	13.35
1943–44	10.02	9.92	10.53	10.98	...	12.84

* *Vide Indian Trade Journal*, Calcutta, 5th October 1944.

TABLE No. 8

Capacity of factories and duration of crushing season in India*

	Tons	
Average Cane-crushing capacity of Factory (calculated on the basis of tons of cane crushed per day of actual working) in India	517	1934–35
	568	1935–36
	630	1936–37
	660	1937–38
	630	1938–39
	710	1939–40
	690	1940–41
	640	1941–42
	690	1942–43
	708	1943–44
Maximum Cane-crushing capacity of Factories per day in India	2,012	1934–35
	1,807	1935–36
	1,960	1936–37
	2,000	1937–38
	1,850	1938–39
	1,960	1939–40
	1,980	1940–41
	1,800	1941–42
	1,920	1942–43
	1,903	1943–44

Duration of Cane-crushing Season (October-May)	1933–34 No. of days	1934–35 No. of days	1935–36 No. of days	1936–37 No. of days	1937–38 No. of days	1938–39 No. of days	1939–40 No. of days	1940–41 No. of days	1941–42 No. of days	1942–43 No. of days	1943–44 No. of days
Mean duration of Cane-crushing season in *All-India* ...	106	104	126	138	112	83	129	113	85	101	117
Maximum duration of Cane-crushing season in *All-India* ...	208	172	179	203	181	184	203	264	313	278	255
Mean duration of Cane-crushing season in *U. P.* ...	112	107	134	140	124	77	133	100	78	112	131
Mean duration of Cane-crushing season in *Bihar* ...	105	109	4	150	99	79	136	100	54	96	93
Mean duration of Cane-crushing season in "*All other Provinces*" ...	84	90	112	138	103	97	119	144	117	89	110

* *Vide Indian Trade Journal*, Calcutta, dated 5th October 1944 and previous issues.

TABLE No. 9

Acreage under Sugar-cane, under improved varieties, production of cane per acre, gross production of Gur, and calculated production of Cane-crop* from 1931-32 to 1944-45

Year	Total acreage under sugar-cane in thousand acres	Acreage under improved varieties in thousand acres	Average cane production per acre (in tons)	Gross production expressed as gur (in thousand tons)	Calculated production of sugar-cane (10-11 factors) (in thousand tons)
1930—31	2,905	817	12.3	3,359	35,780
1931—32	3,076	1,170	14.1	4,116	43,316
1932—33	3,425	1,845	14.9	4,859	51,129
1933—34	3,422	2,295	15.3	5,055	52,455
1934—35	3,602	2,433	15.1	5,292	54,346
1935—36	4,154	3,056	15.3	6,102	61,202
1936—37	4,582	3,452	15.6	6,932	67,322
1937—38	3,869	2,968	15.5	5,579	55,637
1938—39	3,130	2,673	15.0	3,572	35,851
1939—40	3,640	2,893	15.0	4,748	47,632
1940—41	4,598	3,480	15.0	5,794	59,090
1941—42	3,515	......	15.0	4,371	46,030
1942—43	3,600	......	15.0	5,076	......
1943—44	4,234	......	......	5,848	......
1944—45	4,134†	......	......	5,422 (Estimated)	......

* *Vide Indian Trade Journal.* The yield of *gur* per acre has increased from .80 tons in 1901-02 to 1.47 tons per acre, due to improved varieties of cane.

† *Vide Indian Trade Journal*, p. 116, 26th April, 1945.

TABLE No. 10

Percentage of Cane used under different heads during the years 1932-33 to 1943-44 (November-October)**

—	1932-33	1933-34	1934-35	1935-36	1936-37	1937-38 (Our Est.)	1938-39 (Our Est.)	1939-40 (Our Est.)	1940-41 (Our Est.)	1941-42 (Our Est.)	1942-43 (Our Est.)	1943-44 (Our Est.)
Cane used in Factories ...	6.5	9.8	12.3	16.0	17.6	17.8	16.2	27.7	19.1	21.2	25.0	25.0
Cane equivalent to *gur* used in refineries ...	3.0	2.0	1.2	1.4	0.5	0.5	0.5	0.9	1.4	1.4	1.0	1.0
Cane used for *gur* manufacture ...	64.7	65.5	66.0	63.8	64.9	62.0	64.0	51.4	57.7	53.4	50.0	50.0
Cane used for other purposes, including *Khandsari*, Chewing, setts for planting etc. ...	25.8	22.7	20.5	18.8	16.9	19.7	19.3	20.0	21.8	24.0	24.0	24.0
Total percentage ...	100	100	100	100	100	100	100	100	100	100	100	100

** *Vide* Reply in the Council of State to Question No. 39, dated 11th November 1941.

TABLE No. 11

Percentage of Cane crushed in factories to the total Cane-crop in various Provinces*

Season	U. P.*	Bihar*	Bombay	Bengal	Madras	India
1934—35	13.6	30.9	8.0	2.7	5.0	12.3
1935—36	17.1	40.4	11.7	4.8	5.4	16.0
1936—37	17.1	49.3	13.0	5.2	6.0	17.6
1937—38 (Our Est.) ...	18.6	62.3	14.0	......	......	17.8
1938—39	14.5	44.5	......	......	......	19.5
1939—40	25.5	48.4	......	......	......	27.7
1940—41	13.9	29.3	......	......	......	19.1
1941—42	14.6	......	......	......	......	21.2
1942—43	21.9	......	......	......	......	25.0
1943—44	22.3	......	......	......	......	25.0

* Figures based on Cane Development Department (U. P.) statement showing disposal of cane crop in the U. P. during 1934 to 1942 and on letters from Cane Commissioner, Bihar to Chairman, Sugar Commission, U. P and Behar.

TABLE No. 12

Cost of production of Cane per maund

(*a*) Definite figures are not available. Cost of production varies from Province to Province from annas 0-3-0 to annas 0-7-0 per maund. (*Vide* 1939 Annual.)

(*b*) Enquiry undertaken by the Imperial Council of Agricultural Research in 1934, is concluded. Reports of cost in various Provinces were published in 1938 and 1939, and also referred to in Tariff Board's Report of 1937.

(*c*) Cost considerably increased since 1942, due to inflation, and soaring up of prices.

TABLE No. 13

Estimate of total amount of money paid by Sugar factories to Cane-cultivators and workers, since 1931-32 to 1943-44

Season	Estimated average price per maund of cane in U. P. & Bihar Rs. a. p.	Estimated amount paid for cane by factories to Cultivators (1) Rs.	No. of unskilled workers employed (2) No.	Estimated amount of money paid to unskilled workers (3) Rs.
1931—32	0 5 10	1,77,51,000	16,640	998,000
1932—33	0 5 6	3,14,39,000	29,640	1,778,000
1933—34	0 5 6	4,83,98,000	67,200	4,032,000
1934—35	0 5 3	5,97,66,000	78,200	4,680,000
1935—36	0 5 3	8,81,03,000	82,200	4,932,000
1936—37	0 4 5	8,92,19,504	100,000	6,000,000
1937—38	0 5 1	8,57,53,775	100,000	6,000,000
1938—39	0 6 10	8,13,00,988	100,000	6,000,000
1939—40	0 8 5	18,81,09,460	100,000	7,000,000
1940—41	0 4 8	8,96,40,583	100,000	5,650,000
1941—42	0 7 0	6,15,00,000	100,000	4,000,000
1942—43	0 10 0	13,00,00,000	100,000	5,000,000
1943—44	0 12 0	18,00,00,000	100,000	5,500,000
1944—45	0 14 0	26,40,00,000	90,000	6,200,000

(1) Based on statistics received from a large number of factories in U. P. and Bihar.
(2) Based on an assumption of an average factory employing about 600 workers.
(3) Based on an estimate of payment of 0-8-0 per day, (upto 1941-42) and on the average working period of the season. After 1941-42, the estimate is on a 25 per cent higher basis.
(4) Dearness and allowances were increased by 50 per cent in 1942-43 and 1943-44.

TABLE No. 14

Import Duties on Sugar in India and Principal Countries in the World

As there have been so many changes due to the war in regard to the duties on sugar in the various countries, we are not giving the full table here. A reference may be made to the 1939 Annual for the import duties on sugar then existing.

The following table gives the duties in India :—

Import Duty on Sugar in India (1944)

Total Import Duty including 20 per cent surcharge (with equivalent excise duty)		Rs. 11-1-7 1/5	per cwt.
	equivalent to	Rs. 7-1-9 6/7	per maund.
Excise Duty on factory sugar		Rs. 3-0-0	per cwt.
in British India	equivalent to	Rs. 2-3-3	per maund.

The present import duty will continue till 31st March 1946

TABLE No. 15

Excise Duty and Import Duty on Sugar, Sugar Candy* and Molasses in India

On Sugar per cwt.	Protective Import Duty per cwt.	Additional Revenue Duty	Total Import Duty per cwt. Rs.
From 1st April, 1932 to 31st March, 1934	Rs. 7-4-0	Revenue surcharge @ 25% of protective duty Rs. 1-13-0	9-1-0
From 1st April, 1934 to 27th February, 1937 (Rs. 1-5-0 Excise Duty on domestic production of factory sugar)	7-12-0 (0-8-0 being additional margin)	Equivalent excise duty Rs. 1-5-0	9-1-0
From 28th February, 1937 (Rs. 2-0-0 Excise Duty on domestic production of factory sugar)	7-4-0	Equivalent excise duty Rs. 2-0-0	9-4-0
From 1st April, 1939 (Rs. 2-0-0 Excise Duty on domestic production of factory sugar)	6-12-0	Equivalent excise duty Rs. 2-0-0	8-12-0
From 1st March, 1940 (Rs. 3-0-0 Excise Duty on domestic production of factory sugar)	6-12-0	Equivalent excise duty Rs. 3-0-0	9-12-0†
From 1st April, 1942 (Rs. 3-0-0 Excise Duty on domestic production of factory sugar)	6-12-0	Revenue surcharge of 20% amounting to Rs. 1-5-7 1/5 and Equivalent excise duty Rs. 3-0-0	11-1-7 1/5‡

* From 20th February 1934, a revenue duty of Rs. 10-8-0 per cwt. was imposed on *sugar candy* in place of Rs. 9-1-0 per cwt. The rate of import duty on *molasses* is 31¼ per cent *ad valorem* since April 1932.

† The import duty of Rs. 11-1-7½ per cwt. works out at Rs. 7-1-9 per md. and Rs. 3-0-0 excise duty per cwt. works out at Rs. 2-3-3 per md. This import duty has been continued till 31st March 1946.

‡ Total import duty includes surcharge of 20 per cent as from 1st April 1942.

TABLE No. 16

Yield of Revenue from Import Duty on Sugar in India from 1931-32 to 1944-45 (Burma excluded from 1937-38)

Year (April-March)	Yield of Revenue Rs.	Year (April-March)	Yield of Revenue Rs.
1931-32	7,97,63,000	1938-39	45,22,000
1932-33	6,84,79,000	1939-40	3,96,08,000
1933-34	4,72,04,000	1940-41	18,24,000
1934-35	3,81,35,040	1941-42	1,94,000
1935-36	3,24,16,000	1942-43	56,000
1936-37	50,52,000	1943-44	4,14,000
1937-38	25,33,000	1944-45	3,56,000

TABLE No. 17

Excise Duty on all Sugar produced in British India and Yield of Revenue therefrom from 1935-36 to 1945-46 Fiscal years (April-March)

Amount of duty per cwt.	Yield of Revenue from Excise Duty (in Thousand Rupees)										
	1935-36	1936-37	1937-38	1938-39	1939-40	1940-41	1941-42	1942-43	1943-44	1944-45	1945-46
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Khandsari :	60	47	51	59	146	286	443	157	327		
Factory :	15,824	25,202	33,097	42,244	24,760	39,011	66,827	48,184	67,900	65,000 (Revised estimate)	62,500 (Est.)
Total	15,884	25,249	33,148	42,303	24,906	39,297	67,270	48,341	68,227	65,000	62,500

TABLE No. 18

Average price of Indian and Imported Sugar in India per maund of 82-2/7 lbs.

	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Indian 1st quality Special (Cawnpore market average quotation) (Factory Delivery Basis)	9-6-0	9-0-0	8-4-0	7-0-0	8-8-0	10-12-0	10-8-0	11-0-0	13-0-0	15-0-0	16-4-0 for D24
Imported Sugar (Calcutta market average quotation)	9-13-0	9-13-0	9-12-0	9-10-0	10-8-0	11-0-0	11-0-0	...	...	...	

TABLE No. 19

Average price of Gur per maund in 1940-41, 1941-42, 1942-43 and 1943-44

Gur Market	1940-41 (Nov. to Oct.) Rs. a. p.	1941-42 (Nov. to Sept.) Rs. a. p.	1942-43 Nov.-Oct. Rs. a. p.	1943-44 Nov.-Oct. Rs. a. p.
Madras ...	3 1 6	4 2 6	9 6 10	9 10 0
Ahmednagar ...	3 6 9	6 5 8	14 14 6	15 9 9
Lyallpur ...	2 9 2 (No quotation) May, '41	4 0 6 (No quotation) Feb., June, July, August, Sept. '42	10 7 7	10 4 5
Muzaffarnagar ...	3 0 7	5 13 9	8 15 6	6 12 11
Meerut ...	2 12 11 (No quotation) August, '41	5 12 10 (No quotation) for March and Sept. '42	9 0 1	7 6 0
Bhagalpur ...	3 0 1 (No quotation) for Mar., '41	5 10 3 (No quotation) for May, June, July and Sept. '42	11 4 4	8 5 6
Dacca ...	5 5 4	9 7 7	......	......

TABLE No. 20

Approximate Official Estimate of total Carry-over of Stocks of Sugar in India at the beginning of November, since 1931

Year	Tons
1931	32,000
1932	19,000
1933	9,000
1934	30,000
1935	23,000
1936	159,000
1937	211,000
1938	102,000
1939	105,000
1940	390,000
1941	295,000
1942	105,000
1943	133,863
1944	265,802

TABLE No. 21

Approximate Railway Freight on Sugar-cane in 1943-44

Railway	Kind of Wagon	Average Capacity	Distance	Rate per Wagon Rs. A. P.
A. B. Railway ...	4 wheeler	160 maunds	35 miles	8 14 0
E. B. Railway ...	4 wheeler	160 maunds	177 miles	27 0 0
E. B. & A. B. Rly. combined ...	4 wheeler	160 maunds	54 miles	17 8 0
O. & T. Railway ...	4 wheeler	270 maunds	55-60 miles	9 0 0
E. I. Railway ...	4 wheeler	480 maunds	39 miles	10 0 0
			up to 50 miles	14 0 0
			up to 100 miles	25 0 0

TABLE No. 22

Statement showing Expenditure on Sugar Research by the Imperial Council of Agricultural Research*

Year	Amount spent or proposed to be spent	Directions in which generally Spent
	Rs.	
1935-36	4,79,088	Production and testing of new varieties of sugar-cane.
1936-37	3,88,627	
1937-38	3,46,820	Devising and testing systems of cultivation and manuring.
1938-39	3,24,928	
1939-40	3,56,790	Study and combating of insect and fungus pests.
1940-41	3,19,304	
1941-42	3,74,580	Research in use of molasses as manure and cattle food.
1942-43	3,57,446	
1943-44	4,26,828	Sugar Marketing Survey.
1944-45	4,11,700 (Estimated to be spent.)	Utilisation of Bagasse for the paper, and board industry, Etc., Etc.

* Figures collected from official sources and furnished by Secretary, Imperial Council of Agricultural Research, (*Vide* letter No. F. 66(14)|43D dated 16th January 1945).

TABLE No. 23

Estimated Percentage of Gate-cane to the Total Quantity of Cane (i.e. Gate-cane and Rail-borne cane) crushed in Factories in the various Provinces*

Province	1934-35 %	1935-36 %	1936-37 %	1937-38 %	1938-39* %	1939-40† %	1940-41 %	1941-42 % (approx.)	1942-43 % (approx.)	1943-44 % (approx.)
Bihar ...	48	50	58	53	53	53	65	63	70	70
United Provinces ...	65	66	68	72	66	62	69	80	85	85
Bengal ...	22	26	45	55	54	33	32	52	60	60
Punjab ...	...	51	61	69	57	47	55	80	80	80
Bombay ...	100	100	100	100	100	99	100	100	100	100
Madras ...	...	35	67	71	72	75	67	60	65	65

* Compiled by the Indian Sugar Syndicate Ltd. in September 1939.

† Compiled by us from the returns made by factories in 1939-40, 1940-41, 1941-42, 1942-43 and 1943-44.

TABLE No. 24

This Table shows the production, consumption and *per capita* consumption of sugar in the different Provinces and Indian States in 1939-40, 1940-41 and 1941-42 (1st November to 31st October). In estimating these figures also, no account has been taken of the differences between opening and closing invisible stocks and imports and exports by road. But it is believed that initial and closing invisible stocks do not differ appreciably and that the volume of inter-provincial traffic in sugar by road is not great. A better estimate of consumption will, however, be possible if statistics of markets stocks improve.

Production, Consumption and *Per Capita* Consumption of Sugar in the various Provinces and States, during the years 1939-40, 1940-41, and 1941-42 (Nov.-Oct.)

Name of Province	1939—40			1940—41			1941—42		
	Production	Consumption	*Per capita* Consumption	Production	Consumption	*Per capita* Consumption	Production	Consumption	*Per capita* Consumption
	Tons	Tons in (1000)	Lbs.	Tons	Tons in (1000)	Lbs.	Tons	Tons in (1000)	Lbs.
Bengal	45,800	161	6.7	64,600	178	6.6	29,400	120	4.5
Bombay	97,200	219	15.2	120,132	260	20.8	113,354	240	19.2
Madras	50,400	94	3.6	67,400	106	4.8	47,448	90	4.1
Bihar	328,800	57	(a)3.1	257,100	69	(a)3.9	122,300	66	(a)3.6
United Provinces ...	783,400	153	6.3	708,592	244	9.8	480,663	159	6.4
Punjab	32,100	169	12.0	51,023	231	15.3	38,120	199	13.1
C. P. and Berar... ...		38	4.3		47	6.3		37	4.9
Assam		16	3.5		20	4.4		11	2.4
Sind and British Baluchistan.		35	14.3		44	19.5		39	17.3
Orissa		8	...		10	...		7	...
N.-W. F. P.		8	3.8		18	13.3		15	11.1
Delhi		20	44.8		22	53.7		14	34.2
Rajputana		38	6.8		48	7.9		60	9.8
Central India		25	4.8		35	6.8		33	6.4
Nizam's Territory ...		20	2.8		27	3.7		23	3.2
Kashmir		2	1.1		3	1 7		4	2.3
Mysore		11	3.5		14	4.3		15	4.6
ALL-INDIA		1,074	6.5		1,376	8.5		1,132	7.0

(*a*) Includes Orissa also.

TABLE No. 25

Total Production, Import and Export of Molasses in India* for the last 13 years

Year	Production of Molasses in India in Thousand Tons				Imports of Molasses into British India (Tons)	Export of Molasses from British India (including Palmyra and cane jaggery) (Tons)
Nov.-Oct.	From Cane Factory	From Gur Refineries	From Khandsari †	Total†	Apr.-Mar.	Apr.-Mar.
1931-32 ...	69	46	250	365	40,191	740
1932-33 ...	130	56	275	461	31,991	819
1933-34 ...	190	40	209	430	2,401	1,201
1934-35 ...	234	22	150	406	415	1,153
1935-36 ...	337	33	125	495	Nil	1,026
1936-37 ...	406	10	100	516	Nil	24,195
1937-38 ...	349	8	125	482	5	79,167
1938-39 ...	242	6	100	348	2,160	52,676
1939-40 ...	485	7	125	627	2,000	16,000
1940-41 ...	424	32	100	556	......	......
1941-42 ...	293	7	100	400	......	......
1942-43 ...	369	11	100	480	......	......
1943-44 ...	438	8	100	540	......	......
1944-45 ...	341	......	......	......	......	......

* After 1936-37, statistics regarding Burma are excluded.
† Official estimates.

TABLE No. 26

Total value of Sugar Machinery imported in British India from 1932-33 to 1939-40*

(In Thousands of Rupees)

Source	1932-33	1933-34	1934-35	1935-36	1936-37	1937-38	1938-39	1939-40
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
U. K.	91,48	1,95,87	73,60	49,70	68,49	43,15	30,16	......
Other Countries ...	61.63	1,40,51	31,84	16,00	26,66	26,21	31,20	......
	1,53,11	3,36,38	1,05,45	65,70	95,16	69,37	61,36	50,84

* Statistics discontinued after 1939-40.

TABLE No. 27

Calculated Net Production* of Gur in India for direct consumption, from 1937-38 to 1942-43

Year (November—October)	Calculated net Annual Production of *Gur* for direct consumption (in Tons)
1930-31	2,241,000
1931-32	2,758,000
1932-33	3,240,000
1933-34	3,486,000
1934-35	3,701,000
1935-36	4,101,000
1936-37	4,268,000
1937-38	4,364,000
1938-39	2,131,000
1939-40	2,441,000
1940-41	3,414,000
1941-42	2,829,000
1942-43	3,015,000 (Revised)
1943-44	3,564,000 (Estimated)

* The net production of *gur* is calculated by deducting from the total yield of cane expressed in terms of *gur*, and published in the "Final General Memorandum on the production of the Principal Crops in India", by the Director-General, Commercial Intelligence and Statistics, the *gur* equivalent of the cane used for purposes other than *gur* manufacture. *Vide* letter No. 8002|stat., dated 2nd February 1944, from the Director, Imperial Institute of Sugar Technology, Cawnpore, to the Chairman, Sugar Commission, U.P. and Bihar, Cawnpore, for figures from 1940-41 to 1942-43.

TABLE No. 28

Cane Factory Production of Sugar in U. P., Bihar and All-India (in Tons) from 1931-32 to 1943-44

(*Vide Indian Trade Journal*, 6th April 1944)

Season	U. P.	Bihar	All-India	Total quantity of *cane* crushed all factories in tons
1931-32 ...	66,312	75,091	1,58,581	17,83,000
1932-33 ...	1,40,344	1,28,610	2,90,177	33,50,000
1933-34 ...	2,73,774	1,39,957	4,53,965	51,57,000
1934-35 ...	3,15,600	1,84,038	5,78,115	66,72,000
1935-36 ...	5,30,000	2,50,200	9,32,100	98,01,000
1936-37 ...	6,08,600	3,29,300	11,11,400	1,10,87,000
1937-38 ...	5,31,300	2,25,300	9,30,700	99,16,400
1938-39 ...	3,20,300	61,600	6,50,800	70,04,800
1939-40 ...	6,59,500	3,22,100	12,41,700	1,31,31,700
1940-41 ...	5,13,300	2,46,100	10,95,400	1,12,90,900
1941-42 ...	3,82,900	1,17,300	7,78,100	80,26,300
1942-43 ...	6,12,500	2,37,400	10,70,700	1,04,18,500
1943-44 ...	7,27,100	2,12,400	12,16,400	1,21,37,800 (Revised)
1944-45 ...	5,33,500	1,70,600	9,85,100	95,33,400

TABLE No. 29

The following is the schedule of ex-factory control rates of sugar which have come into force with effect from October 21, 1944:

Price per maund of Crystal Sugar for sale, ex-factory 1944-45 according to grade

—	19	20	21	22	23	24	25	26	27	28
A A A ...	...	...	...	...	16 12 6	16 14 0	17 0 0	17 1 6	17 3 6	17 5 0
A A ...	...	...	...	...	16 10 6	16 12 0	16 14 0	16 15 6	17 1 6	17 3 0
A ...	...	16 2 0	16 4 6	16 6 6	16 8 6	16 10 0	16 12 0	16 13 6	16 15 6	17 1 0
B ...	...	15 15 6	16 2 0	16 4 0	16 6 0	16 7 6	16 9 6	16 11 0	16 13 0	16 14 6
C ...	...	15 13 6	16 0 0	16 2 0	16 4 0	16 5 6	16 7 6	16 9 0	16 11 0	16 12 6
D ...	15 8 0	15 12 0	15 14 6	16 0 6	16 2 6	16 4 0	16 5 6	16 7 6	16 9 6	16 11 0
E ...	15 6 6	15 10 6	15 13 0	15 15 0	16 1 0	16 2 6	16 4 6	16 6 0	16 8 0	16 9 6
F ...	15 5 6	15 9 6	15 12 0	15 14 0	16 0 0	16 1 6	16 3 6	16 5 0	16 7 0	16 8 6
G ...	15 4 6	15 8 6	15 11 0	15 13 0	15 15 0	16 0 6	16 2 6	16 4 0	16 6 0	16 7 6

Type of Sugar	*Maximum Ex-factory Price** Per maund	
Sugar Candy	Rs. 20—7—0	
Bura	„ 17-11—0	
Khandsari	„ 16—4—0	(Wholesale prices in 21 Districts)

* *Vide* two notifications of the Sugar Controller dated 21st October 1944.

TABLE No. 30

Recovery of Sugar from Cane during 1932-35 to 1944-45

Provinces	Recovery of Sugar per cent Cane										
	1934-35	1935-36	1936-37	1937-38	1938-39	1939-40	1940-41	1941-42	1942-43	1943-44	1944-45
U. P. ...	8.56	9.60	9.65	9.18	9.14	9.37	9.87	9.87	10.16	9.92	10.36
Bihar ...	8.79	8.93	9.20	9.58	9.00	9.29	9.86	10.35	10.93	10.53	10.70
"All other Provinces" ...	8.77	9.00	9.60	9.77	*9.91	9.88	9.34	9.22	9.95	9.94	...
All-India ...	8.66	9.29	9.50	9.38	9.29	9.45	9.70	9.69	10.28	10.02	10.31

* *Vide Trade Journal.* (Second Memorandum on production of cane sugar, in 1944-45.)

TABLE No. 31

Production of Sugar directly from Cane in Modern Factories in India, 1929-30 to 1943-44, and Recovery Percentage for Java

Season	Number of Factories producing Sugar direct from cane	Cane crushed	Sugar produced	Percentage Recovery for India	Percentage Recovery for Java*
		Tons	Tons		
1929-30 ..	27	989,776	49,768	9.07	11.76
1930-31 ...	29	1,317,248	119,859	9.00	10.92
1931-32 ...	32	1,783,499	158,581	8.89	11.56
1932-33 ...	57	3,350,231	290,177	8.66	12.84
1933-34 ...	112	5,157,373	453,965	8.80	12.55
1934-35 ...	130	6,572,000	578,115	8.66	13.23
1935-36 ...	137	9,801,748	932,100	9.29	12.77
1936-37 ...	137	11,687,200	1,111,400	9.50	11.87
1937-38 ...	136	9,916,400	930,700	9.38	11.77
1938-39 ...	139	7,001,800	650,800	9.29	12.23
1939-40 ...	145	13,131,700	1,241,700	9.45	(Not Available)
1940-41 ...	148	11,290,900	1,095,400	9.70	
1941-42 ...	150	8,026,300	778,100	9.69	
1942-43 (Our Est.) ...	150	10,418,000	1,070,700	10.28	
1943-44 (Revised) ...	151	12,137,800	1,216,400	10.02	
1944-45 ...	144	9,533,400	985,100	10.31	

* *Vide* the *Indian Trade Journal*, 23rd September 1943.

TABLE No. 32

Value of imports of Sugar,* Revenue from imports, and Rate of Import Duty on Sugar from 1920-21 to 1944-45

Year April-March	Value of foreign Sugar (net) imported in British India in Lakhs of Rupees*	Revenue from Import Duty on Sugar in Lakhs of Rupees**	Rate of Import Duty
1920-21 ...	1,850	185	10 p.c. *ad valorem*
1921-22 ...	2,750	412	15 p.c. *ad valorem*
1922-23 ...	1,549	487	25 p.c. *ad valorem*
1923-24 ...	1,545	486	" "
1924-25 ...	2,090	578	" "
1925-26 ...	1,520	659	Rs. 4-8-0 per cwt.
1926-27 ...	1,534	744	" "
1927-28 ...	1,450	653	" "
1928-29 ...	1,586	782	" "
1929-30 ...	1,836	846	" "
1930-31 ...	1,047	1,081	Rs. 6-0-0 per cwt.
1931-32 ...	590	798	Rs. 9-1-0 " (Rs. 7-4-0 being protective and Re. 1-13-0 being revenue surcharge from 1st April 1932.)
1932-33 ...	422	685	" "
1933-34 ...	270	472	" "
1934-35 ...	210	381	Rs. 9-1-0 per cwt. (Rs. 7-12-0 being protective & Re. 1-5-0 being equivalent excise duty from 1st April 1934.)
1935-36 ...	190	324	" "
1936-37 ...	23	51	" "
1937-38 ...	18	25	Rs. 9-4-0 per cwt. (Rs. 7-4-0 being protective and Rs. 2-0-0 being equivalent excise duty from 28th February 1937.)
1938-39 ...	45	45	" "
1939-40 ...	331	396	Rs. 8-12-0 per cwt. (Rs. 6-12-0 being protective & Rs. 2-0-0 being equivalent excise duty. (With effect from 1st April 1939.)
1940-41 ...	36	18	Rs. 6-12-0 being protective and Rs. 3-0-0 being equivalent excise duty. (With effect from 1st March 1940.)
1941-42 ...	107	1·9	Rs. 9-12-0 per cwt.
1942-43 ...	...	·5	Rs. 11-1-7 1/5 per cwt. with effect from 1st April 1942 (i.e. including 20% surcharge on ordinary import duty of Rs. 6-12-0) and Rs. 3-0-0 being equivalent excise duty.
1943-44 ...	...	4·1**	
1944-45 ...	...	3·5**	

* Annual statement of sea-borne trade (Burma excluded from 1937-38).

** These figures appear to be too large, looking to imports reported to be negligible. On an enquiry, however, we were informed that they represent duty collected in those years on sugar released from Bond out of stock imported during 1941 and 1942.

TABLE No. 33

Java Sugar Statistics from 1935-36 to 1940-41*

(In Long Tons)

Crop Year	Initial Stock on 1st April	Production	Exports	Local Consumption	Final Stock on 31st Mar.
1935–36 ...	1,585,397	505,528	863,356	285,013	942,556
1936–37 ...	942,556	583,029	975,003	309,449	241,133
1937–38 ...	241,133	1,392,151	1,017,276	306,522	309,486
1938–39 ...	309,486	1,376,824	1,163,809	315,922	206,579
1939–40 ...	206,579	1,550,462	1,214,125	304,740	238,176
1940–41 ...	238,176	1,579,697	837,342	351,828	628,703
1941–42 ...	(No reliable	reports availa	ble since occu	pation of Java	by Japanese)

* *Vide Lamborn Weekly Report*, issue of June 24th, 1941.

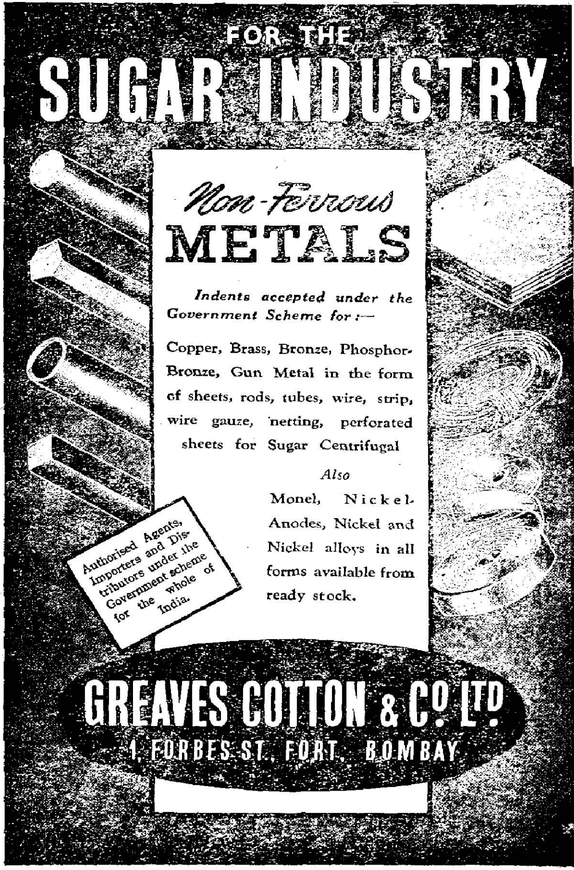
TABLE No. 34

An interesting Table regarding *Per Capita* Consumption of Gur and Sugar in certain Rural and Urban Areas* in pre-war period (1937-38)

Name of Province	Gur		Sugar	
	Urban areas (lb.)	Total for the Province (lb.)	Urban areas (lb.)	Total for the Province (lb.)
United Provinces ...	13·2 (1)	53·9	58·1 (2)	8·3
Punjab	18·0 (3)	23·3	50·4 (4)	12·8
Bengal	15·4 (5)	22·8	85·5 (5)	6·3
Madras	8·9 (6)	12·1	51·2 (6)	4·4
Bombay	12·4 (7)	14·4	81·4 (7)	16·3
Sind	6·0 (8)	7·2	82·1 (8)	17·8

(1) 22 markets, (2) 29 markets, (3) 6 markets, (4) Delhi, (5) Calcutta, (6) Madras, (7) Bombay, (8) Karachi.

* Report on the Marketing of Sugar published by Central Agricultural Marketing Department (Government of India), 1943, p. 130.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To those interested in this subject much valuable advice and assistance will be gladly given by the Indian Tea Market Expansion Board, 101, Clive Street, Calcutta.

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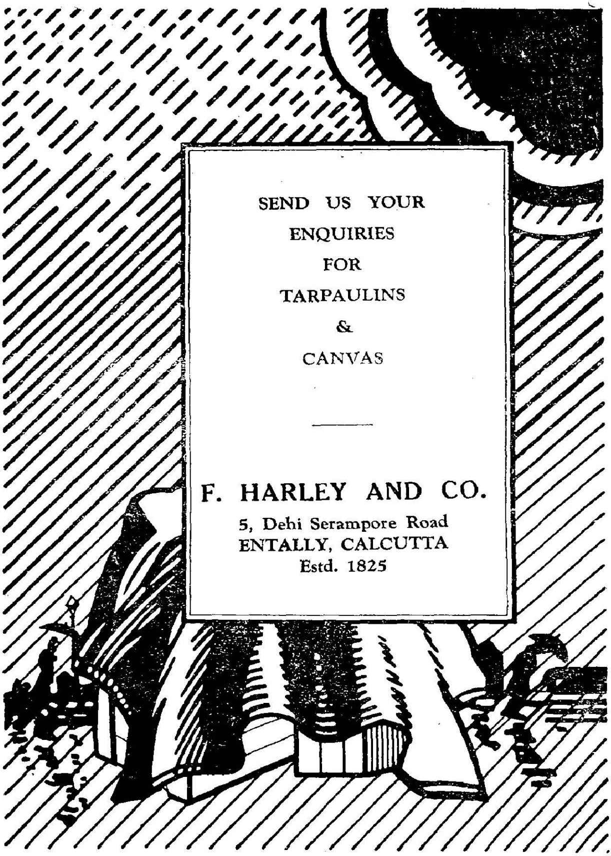
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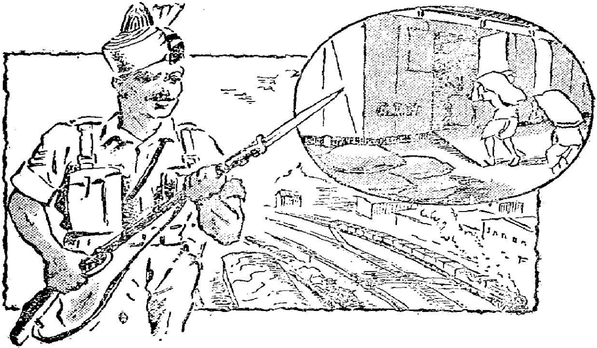

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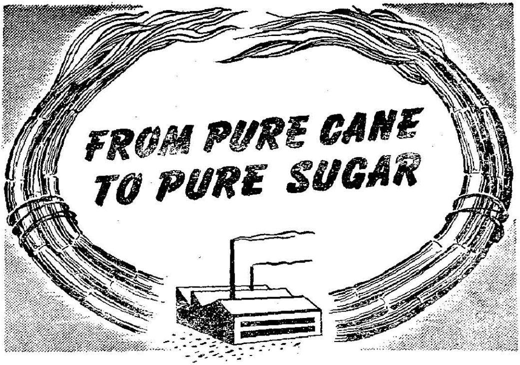

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TABLE No. 35

Statement showing Sugar Production and Quotas allotted for Civilian Consumption for the Quota Year 1943-44

Areas		Production during 1943-44 (Tons)	Quota from Local Production (Tons)	Quota from U. P. & Bihar (Tons)	Total quota for civilian consumption for 1943-44	Total quota for 1944-45
Assam ...	...	......	......	16,000	16,000	(Approx. 9,50,000 tons)
Baluchistan	...	......	......	4,700	4,700	
Bengal & States	...	13,649	13,649	1,34,351	1,48,000	
Bombay & States	...	1,03,225	80,181	1,27,819	2,08,000	
Central India	...	12,172	12,172	12,828	25,000	
C. P. & States	...	......	......	38,000	38,000	
Delhi ...	...	......	......	19,000	19,000	
Hyderabad	...	17,467	17,467	......	18,000	
Jammu & Kashmir	...	15	15	5,985	6,000	
Madras & States	...	66,858	66,858	43,042	1,09,900	
N.-W. F. P.	...	6,253	6,253	11,247	17,500	
Orissa ...	...	1,695	1,695	6,305	8,000	
Punjab & States	...	28,348	28,348	1,39,652	1,68,000	
Rajputana	...	2,179	2,179	38,821	41,000	
Sind & States	...	......	......	31,200	31,200	
U. P. & States	...	7,59,436	1,38,500	......	1,38,500†	
Bihar ...	...	2,12,809	53,500	......	53,500	
Khandsari Sugar	...	80,000†	......	......	......	
Total	...	13,04,106	4,20,817	6,28,956	10,86,300**	

* Estimated.

** Includes 44,000 tons of khandsari sugar allotted outside the U. P. and 36,000 tons estimated consumption of khandsari sugar in the U. P.

† The U. P. is allotted a further quota of 36,000 tons of khandsari sugar in 1943-44

N. B.—The figures of allotment quota are collected from official sources. But as the cane-crushing season of 1944-45 has not yet been closed and returns of sugar production from Madras, Bengal and Bombay were not available so far, the allotment quotas are provisional and should be taken as such. The quotas have not been finalised at the time this volume has been sent to press and readers may kindly note that there might be some difference in final figures.

NOTE.—Where States are not shown separately their quotas are included in the British Indian Provinces adjoining them.

According to the Sugar Controller of India, Annual quotas for the Provinces and Indian States are fixed by him on the basis of consumption averages during the year 1934-35 to 1938-39. The sugar allowed for civilian consumption in 1942-43 may perhaps be 25 per cent less than the consumption requirements of the country which have appreciably increased as compared with the average of the pre-war years. The population in many towns and cities has increased even as compared with 1941 census figures. There has been a large influx of refugees in the country. The Allied forces stationed in the country have also increased. Again, conditions now are more prosperous than before and this has naturally resulted in a change in the social habits of the people leading to a higher demand for luxury foodstuffs.

Non-varying price for cane in U. P. and Bihar in 1943-44
Punjab and Bengal Fix Higher Prices

Early in November, 1943, the Government announced an increase in the minimum price of cane in U. P. and Bihar from As. 10 a maund which was the price in the 1942-43 season, to As. 12 a maund of cane. At the same time, the factories were directed not to pay the full price to the cane-grower all at once. One-sixth of the price, i.e. two annas a maund, was to be paid in Defence Savings Bonds or Certificates which were to be cashed one year after the war was over. The Government expected that on the basis of production of 9 lakhs tons of sugar in U. P. and Bihar, nearly Rs. 3 crores would thus be withheld from circulation and be of assistance in their anti-inflationary tendencies. The Punjab Government, finding that factories were unable to get cane at Rs. 0-12-0, fixed Rs. 0-14-6 per maund, and the Bengal Government fixed Re. 1 per maund.

Special Reduction in Cane Price towards the fag end of the Season, 1943-44

With effect from 15th May, 1944, the U. P. Government announced a reduction of Rs. 0-2-0 in the price of cane, i.e. to Rs. 0-10-0 per maund, in order to induce factories to continue crushing and produce maximum quantities of sugar. The full amount was to be paid straight to cane-growers.

Discontinuance of Additional Special Cess of Rs. 0-0-6 per maund of Cane in U. P. and Bihar in 1943-44

Additional Cess of 0-0-6 per maund of cane imposed in 1940-41 to repay the deferred excise duty, for which an amount of Rs. 1,50 crores was borrowed from the Government of India, with a view to enable the Governments of U. P. and Bihar to give a temporary rebate of one rupee per maund of the excise duty, was discontinued from 1943-44 season, as the amount was fully collected and as the sum, along with the interest, was repaid to Government of India.

Raising of Ordinary Cess on Cane from 0-0-3 to 0-1-0 per maund in U. P. and Bihar in 1943-44

The rate of ordinary Provincial cess on cane which was 0-0-3 per maund was, however, raised to 0-1-0 per maund with effect from 1943-44, in U. P. and Bihar, in spite of the protests of the industry. The proceeds of this cess will be credited to Provincial Revenues as usual. No portion of this cess is earmarked for any specific purposes. But in 1942-43, the U. P. Government spent a substantial amount from the General Revenues on (*i*) Cane Development Department, (*ii*) the staff for reservation and bonding of sugarcane, (*iii*) the seasonal staff maintained for the administration of the United Provinces Sugar Factories Control Act, 1938, and the rules made thereunder, (*iv*) the Sugar Commission, (*v*) the special staff maintained at the Imperial Institute of Sugar Technology in connection with the technical and statistical work entailed by the Sugar Factories Control Act and Rules, and (*vi*) the staff maintained in connection with the Sugar Control Scheme of the Government of India.

The U. P. Government realized Rs. 61,07,755, as cess on sugarcane during the financial year 1942-43. This also includes the proceeds of the additional cess of 0-0-6 per maund of cane levied in order to recover the loan advanced by the Government of India in the form of deferred sugar excise duty with a view to assist the sugar industry of the province.

The sum advanced by the Government of Bihar to the industry in Bihar a few years ago in connection with Excise Duty has not yet been recovered in full. There was a sum of Rs. 5,70,000 yet to be realized at the end of November 1943. But the special cess on cane was discontinued from 1943-44.

The total amount collected from the Cane Cess in Bihar in 1942-43, was Rs. 22,74,000 of which Rs. 7,58,000 represented the ordinary cess and Rs. 15,16,000 represented the special cess for repayment of loan to the Government of India.

In Bihar also, the income from the cane cess is merged in the Provincial Revenue and no separate account is maintained of the expenditure from cess. The annual expenditure incurred by Government on the Cane Development and other schemes related to sugarcane generally covers a large portion of the proceeds from the ordinary cess.

The Chairman, Sugar Commission of U. P. and Bihar assured the industry, however, (*vide* his letter to the Sugar Mills Association, No. 5784|Com. E-7, dated the 22nd September, 1943) that "the proceeds of the cess though credited to General Revenues will in due course be utilized for the benefit of the industry and the growers".

Cane Prices and Cane-cess During 1944-45 Season in U.P. and Bihar

In October, 1944, the Sugar Controller for India, after consulting his Advisory Committee, announced an increase of Rs. 1-7-0 in the sugar price, thereby fixing the price of sugar of the standard quality (D. 24) at Rs. 16-4-0 per maund. The Governments of U. P. and Bihar on the basis of this increase fixed a cane price of As. 14|-. Thus the minimum price of cane for the season 1944-45 was fixed at annas fourteen per maund of cane exclusive of cess to be paid by all factories. An exception was made in the case of the Gokulnagar Sugar Factory at Kichha, the cane price in the case of which was fixed at 12 annas per maund. As in the previous year, the two Provincial Governments levied compulsory deductions from the cane price for investing in the National Savings Certificates. In U. P. compulsory deductions were as follows:—

		Rs. a. p.
1.	Kichha Factory	0-1-0
2.	Factories in Gorakhpur Division	0-2-0
3.	Ratna and Aira Sugar Factories	0-2-0
4.	All other Factories	0-3-0

In Bihar, the Government at the very commencement of the season fixed a cane price of 14 annas and ordered a uniform deduction of 0-2-0 for National Savings Certificates from the cash price. As the season advanced, it was found that the cane price for ryots seemed low in view of the bad crop in Bihar. As the industry considered the price of Rs. 0-14-0 inadequate, a deputation of industrialists waited on His Excellency the Governor of Bihar towards the beginning of December, 1944. In response to the demand of the industry the Governor agreed to abolish the cess of one anna in the case of Bihar factories and permit this amount to be added on to the cane price. With effect from 16-12-1944 the cess of one anna was abolished and the cane price was raised to Rs. 0-15-0 per maund in the case of Bihar. The compulsory deduction in the case of Bihar was fixed at a uniform rate of two annas per maund.

It may be noted that the Governments of U. P. and Bihar also abolished the compulsory deductions from cane prices paid to the cultivators with effect from 25th January, 1945, in response to the requests of the industry. This salutary measure came none too early as it was recognised to be long overdue, both in the interests of the cultivators and the future of the sugar industry.

Cane Prices in Other Provinces

Madras

The basic minimum prices of sugarcane were fixed by the Government of Madras for the season 1943-44 ranging from Rs. 17 to Rs. 20 per ton in accordance with the costs of transport of cane to the factory from the field. In view of the increase in price of sugar announced by the Sugar Controller, prices for sugarcane for the current season of 1944-45 were fixed at between Rs. 20|8|- to Rs. 24|- per ton.

Mysore

The minimum price fixed for sugarcane in Mysore for the factory at Mandya for the 1943-44 season was Rs. 18 per ton. In view of the increase in the ex-factory price of sugar by Rs. 1-7-0 per maund with effect from 20th October, 1944, a proportionate increase in cane-price was under contemplation of the Mysore authorities before the season could start.

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Bombay, 30th July 1945.

M. P. GANDHI,
Editor.

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"THE SUGAR INDUSTRY AT A GLANCE" (1944)

SUGAR INDUSTRY (PROTECTION) ACT, 1939*

(Present Duties to continue till 31st March 1946)

ACT NO. XX of 1939

An Act to provide for the continuance for a further period of the protection conferred on the sugar industry in British India.

Whereas it is expedient to provide for the continuance for a further period of the protection conferred on the Sugar Industry in British India, and to extend the date before which the Central Government is required under Section 3 of the Sugar Industry (Protection) Act, 1932, to lay before the Indian Legislature the proposals referred to in the said Section ;

XIII of 1932

It is hereby enacted as follows:—

Short Title

1. This Act may be called the Sugar Industry (Protection) Act, 1939.

Amendment of Sec. 3 of Act XIII of 1932 †

2. In Section 3 of the Sugar Industry (Protection) Act, 1932, for the figure "1939" the figure "1941" shall be substituted.

Amendment of First Schedule to Act XXXII of 1934 ‡

3. In Item No. 17 of the First Schedule to the Indian Tariff Act, 1934:—

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* Received the assent of the Governor-General on March 31, 1941. For the Sugar Industry (Protection) Act, 1932, and the Sugar Industry (Temporary Extension) Act, 1938, *see* 1939 Sugar Industry Annual, pages 1 to 4.

† As amended, Section 3 of Act XIII, 1932, viz. the Sugar Industry (Protection) Act, 1932, will read as under:—

3. The Governor-General-in-Council shall cause to be made by such persons as he may appoint in this behalf, an inquiry to ascertain if the protection of the sugar industry during the period from the 31st day of March 1941 to the 31st day of March 1946, should be continued to the extent conferred by this Act, or to a greater or lesser extent, and shall, not later than 31st day of March 1941 lay his proposals in this behalf before the Indian Legislature.

‡ As amended, Item No. 17 of the First Schedule to the Indian Tariff Act, 1934, will read as follows:—

17. Sugar, excluding confectionery	Protective	The rate at which excise duty is for the time being leviable on sugar, other than *khandasari* or *palmyra* sugar, produced in British India plus Rs. 6-12-0 per cwt.	Upto 31st March 1946

(*a*) In the fourth column, for the words and figures "plus Rs. 7-4-0 per cwt." the words and figures "plus Rs. 6-12-0 per cwt." shall be substituted;

(*b*) In the last column, for the figures "1939" the figure "1941" shall be substituted.

It is hereby declared that it is expedient in the public interest that Clause 3 of this Bill shall have immediate effect under the Provisional Collection of Taxes Act, 1931.

By the Protective Duties Continuation Act 1942, the import duty on sugar was continued on the same level up to 31st, March, 1944.

By the Protective Duties Continuation Act 1944, the existing protective duties on sugar [as also wood pulp, paper, silk manufactures, gold and silver thread and wire, (including the so-called gold thread and wire mainly made of silver), *and* iron and steel manufactures] *were continued for a further period of two years, that is, upto 31st March, 1946.*

It was observed in the Statement of Objects and Reasons that "in the present unsettled conditions no suitable date on the basis of which enquiries by a Tariff Board can be instituted is available. In the absence of such enquiries it is not possible to ascertain the quantum of protection required during normal years and the object of this Bill is to maintain the *status quo* for a further period of two years, that is, upto 31st March, 1946.

Note:—The total import duty on sugar (including the equivalent excise duty of Rs. 3 per cwt. and the surcharge of 20 per cent imposed with effect from the 1st April 1942) amounts to Rs. 11-1-7 1/5 per cwt. with effect from 1st April 1944. It will be continued upto 31st March, 1946.

SUGAR EXCISE DUTY ACT, 1934

(Incorporating amendments made upto March 1940)

An Act to provide for the imposition and collection of an Excise Duty on Sugar.

(For Text of the Act, refer to earlier issues of the Annual.)

INTERNATIONAL SUGAR AGREEMENT.

India does not join after September, 1942.

"India was a party to the International Sugar Agreement which was concluded in 1937 with a view to establishing and maintaining an orderly relationship between supply and demand of sugar and to regulate the world prices of sugar. Under this agreement India undertook to prohibit exports of Indian sugar by sea elsewhere than to Burma.

India was released from this obligation not to export sugar by sea, with effect from 1st September 1942, the Government of India having decided not to join in the proposed extension of the International Sugar Agreement.

U. P. AND BIHAR GOVERNMENTS' ACTS

SUGAR CONTROL BOARD (1944-45)

The following persons have been nominated members of the reconstituted Sugar Control Board of U. P. & Bihar by a Notification dated 26th June, 1944, for a period of one year from 1st July, 1944.

The Adviser to H. E. the Governor of U. P., Revenue; The Adviser to H. E. the Governor of Bihar, Development; Mr. D. R. Narang, Basti Sugar Mills Ltd., Basti; Mr. C. O'Malley, Begg, Sutherland & Co. Ltd., Cawnpore; Mr. R. L. Nopany, Calcutta; Lala Gurusharan Lal, Gaya Sugar Mills Ltd., Bihar; Mr. N. A. Shervani, Etah; Lala Har Sahai Gupta, Shanker Agricultural Farm, Bilari (Moradabad); Raja Raghuvendra Pratap Narain Singh, M.L.A., Gonda; Mr. Nasirullah Rahman Kidwai, Bara Banki; Mr. Jamuna Karjee, M.L.A., Darbhanga, Bihar; Chaudhury Kalika Prasad Roy, Bihar; Mr. Satyapal Varma, Cawnpore; Secretary to the Government of Bihar, Development Department and Employment Department; Secretary to the Government of U. P. in the Agricultural Department.

U. P. AND BIHAR SUGAR COMMISSION

In August 1940, the U. P. and Bihar Governments set up a joint "Sugar Commission, which would be the final authority, subject to Government control, on all matters connected with the production and sale of sugar, as well as other matters regarding cane prices, etc." It may be observed that since the institution of Central Control over the industry, the Sugar Controller for India exercises some of the powers relating to sale, cane price fixation, etc. in the interests of an all-India policy and to that extent directs the Sugar Commission and its Chairman in the discharge of their duties.

The Chairman of the Commission is Mr. K. R. Malcolm, I.C.S., who succeeded Mr. J. E. Pedley in 1944. The Cane Commissioners of U. P. and Bihar are *ex-officio* members of the Commission. They are also *ex-officio* members of the Board of Directors of the Indian Sugar Syndicate Ltd. The office of the Sugar Commission is located at Cawnpore.

The Chairman of the Commission also acts as Provincial Sugar Controller for U. P.

U. P. AND BIHAR SUGAR FACTORIES CONTROL ACT

During 1942 the Bihar and U. P. Governments proposed an amendment to the Control Acts with a view to maintain the continuity of work and to continue the operation of the Acts till the end of the crushing season 1946-47. A copy of the Statement of Objects and Reasons was given in the previous Annual.

In November 1944, the United Provinces Government made certain amendments to the U. P. Sugar Factories Control Rules, 1938. Under the new amendment a Technical Committee consisting of six members was proposed to be

set up to plan and organise and direct the technical problems concerning the sugar industry in U. P. The Director of Imperial Institute of Sugar Technology and the Cane Commissioner of U. P. shall be appointed as *ex-officio* members of the Committee and the remaining four shall be nominated by the Government after consulting the Indian Sugar Syndicate Ltd.

The functions of the Technical Committee shall be to advise the Provincial Government with regard to (*a*) the establishment of new sugar factories in the Province or additions or alterations in the existing plants of the sugar mills (*b*) and to advise on any other technical and incidental matters connected with the sugar mills referred to it from time to time by the Sugar Commissioner or the Provincial Government. The office of the Technical Committee is to be located at Cawnpore.

GOVERNMENT OF INDIA : DEPARTMENT OF FOOD
SUGAR AND SUGAR PRODUCTS CONTROL ORDER, 1943
(As amended upto 30th June, 1945)

No. 1-Sc. (1)/43 :—In exercise of the powers conferred by the Sub-rule (2) of Rule 81 of the Defence of India Rules and in supersession of the Sugar Control Order, 1942, published with the Notification of the Government of India in the Department of Commerce, No. 1-SC(6)/42, dated the 29th June 1942, and modified by subsequent notifications the Central Government is pleased to make the following Order, namely:—

1. (1) This Order may be called the Sugar and Sugar Products Control Order, 1943.

(2) It extends to the whole of British India.

(3) It shall come into force at once.

2. In this Order unless, there is anything repugnant in the subject or context,

(a) "Controller" means the person appointed as the Sugar Controller for India by the Central Government, and includes any person authorised by the Controller to exercise all or any of the powers of the Controller under this Order;

(b) "dealer" means a person carrying on business in the purchase, sale or distribution of sugar or sugar products;

(c) "*ex*-factory price" means price of sugar inclusive of excise duty, packed in accordance with the usual market practice, and loaded at the buyer's option, on buyer's carts, lorries or other means of transport, or into railway wagons at the railway station or siding generally used by the producer, and all incidental charges including those for siding and forwarding, being on account of the ex-factory seller;

(d) "producer" means a person carrying on the business of manufacturing sugar or sugar products or both with the aid of electrical energy or any other form of energy which is mechanically transmitted, and is not generated by human or animal agency;

(e) "recognised dealer" means a dealer who has been recognised as such by the Controller for purposes of this Order;

(f) "sugar" means any form of sugar containing more than 90 per cent of sucrose;

(g) "sugar product" means any article manufactured from, and containing sugar not less than 50 per cent of its weight.

3. No producer shall, dispose of, or agree to dispose of, make delivery of, any sugar, except—

(i) to or through a recognised dealer, or

(ii) to a person specially authorised in this behalf by the Controller to acquire sugar on behalf of the Central Government or of a Provincial Government or of an Indian State.

4. (1) If the Controller has reason to believe that the production of special types of sugar or sugar products is likely to affect adversely the production of adequate quantities of ordinary sugar, he may, by general or special order, prohibit, or limit to such quantities as may be specified in the order, the manufacture by any producer or by producers generally of such types or grades of sugar or sugar products as the order may specify, and no producer to whom such order applies shall manufacture any sugar or sugar products in contravention thereof.

(2) For the purposes of sub-clause (1), "producer" includes a person carrying on the business of manufacturing any form of sugar containing more than 90 per cent sucrose including Khandsari sugar, Desi sugar and Bura.

5. Every producer and dealer shall comply with such directions regarding the sales, stocks or distribution of sugar or sugar products as may from time to time be given to him by the Controller.

6. (1) The Controller may, from time to time, fix by notification in the *Gazette of India* the price or maximum price at which any sugar or sugar product may be sold or delivered, and different prices may be so fixed by him for different areas or different types of grades of sugar or sugar products.

(2) Where the price or the maximum price has been so fixed :—

(*a*) the price at which such sugar or sugar product may be sold for delivery otherwise than ex-factory shall not exceed the price or the maximum price as the case may be fixed under sub-clause (1) for sale ex-factory plus such charges in respect of transport to or in specified areas and other incidental charges as are approved by the Controller;

(*b*) no person shall sell or purchase or agree to sell or purchase such sugar or sugar product at a price higher than that fixed under the provisions of sub-clause (1).

7. (1) The Controller may, from time to time—

(i) allot quotas of sugar or sugar products or of both for the requirements of any specified province, or area, or market,

(ii) issue directions to any producer or dealer to supply sugar or sugar products to such provinces, areas or markets or such persons or organisations, in such

quantities, of such types or grades, at such times, at such prices and in such manner as may be specified by the Controller, and

(iii) require any producer or dealer to keep in reserve stocks of sugar or sugar products in such quantities and of such types and grades as he may direct from time to time.

Provided that where price or maximum price of any sugar or sugar product has been fixed in accordance with sub-clause (1) of clause 6 the Controller shall in respect of such sugar or sugar product specify the price or maximum price under para (ii) of this sub-clause accordingly.

(2) Every producer shall, notwithstanding any existing agreement with any other person, give priority to, and comply with, any directions issued to him under sub-clause (1).

8. (1) No sugar shall be transported, or offered or accepted for transport, whether by rail, road or water, and whether by a railway servant, common carrier or other person, except under and in accordance with the terms of :—

(*a*) a general or special permit issued by the Controller in this behalf; or

(*b*) A Military credit note.

Provided that nothing in this sub-clause shall apply to the transport of sugar not exceeding 20 seers as part of the personal luggage of a *bona-fide* traveller.

(2) A permit issued in pursuance of sub-clause (1) shall be returned by the consignor to the Controller on completion of despatch, or on expiry of the period of its validity, whichever is earlier, with the particulars of actual despatches in the prescribed form.

(3) For the purposes of this clause "sugar" means sugar manufactured by any process, including sugar made in vacuum pan factories from cane or gur or palmyrah jaggery, as well as khandsari sugar, sugar candy (misri) and Bura.

9. The Controller may, by notification in the official Gazette, make rules for carrying into effect the purposes and objects of this Order.

10. Notwithstanding the supersession of the Sugar Control Order, 1942, all notifications, rules, orders, authorizations, quotas, requirements, and directions issued thereunder shall, so for as they are not inconsistent with this Order, be deemed to have been made hereunder, and they shall continue in force until rescinded or modified hereunder.

11. If any person contravenes the provisions of this Order, then without prejudice to any other punishment to which he may be liable, any court trying the offence may order that any stocks of sugar or sugar products, together with the packages and coverings thereof, in respect of which the court is satisfied that the offence has been committed, shall be forfeited to His Majesty.

GOVERNMENT OF INDIA: DEPARTMENT OF FOOD

GUR CONTROL ORDER, 1943

(With amendments up to date)

No. 11-S.C.(6)/43-I:—In exercise of the powers conferred by sub-rule (2) of rule 81 of the Defence of India Rules, the Central Government is pleased to make the following Order:—

1. (1) This Order may be called the Gur Control Order, 1943.

(2) It extends to the whole of British India.

(3) It shall come into force at once.

2. In this order, unless there is anything repugnant in the subject or context,

(a) "Controller" means the person appointed as Gur Controller for India by the Central Government, and includes any person authorised by the said Controller to exercise all or any of the powers of the Controller under this Order;

(b) "dealer" means a person dealing in the purchase, sale, or distribution of Gur;

(c) "producer" means a person carrying on the business of producing Gur;

(d) "Gur" means articles commonly known as Gur, Gul, jaggery, palmyra jaggery, shakkar and rab, and includes raw sugar as also uncrystallised sugar in any other form comprising of original and convertible molasses and other impurities, inherent or foreign, prepared by boiling cane or palmyra juice;

(e) "Sugar" means any form of sugar containing more than 90 per cent of Sucrose.

3. The Controller may, from time to time, fix by notification in the official Gazette for any specified area the maximum prices at which Gur may be sold or delivered, and different rates of prices may be so fixed by him for different areas or different types or grades of Gur.

4. Every producer and dealer shall comply with such directions regarding the production, sales, delivery, stocks, distribution or prices of Gur as may from time to time be given by the Controller.

5. If in the opinion of the Controller the unregulated production of Gur in any area is likely to affect adversely the production of sugar in quantity which in his opinion is required for the needs of the community, he may, by order published in the official Gazette, provide for all or any of the following matters:—

(a) prohibit or restrict the export of sugarcane to any place outside that area;

(b) direct that cane growers in that area shall deliver sugarcane to a specified sugar factory or factories in accordance with such conditions in regard to quantity, price, and time of delivery as may be specified by the Controller;

(c) prohibit, or restrict to such quantities or qualities or both as may be specified by the Order, the manufacture of Gur by all or any class of producers in the said area.

6. (1) The Controller may, from time to time—

(i) allot quotas of Gur for the requirements of any specified province or area, or of any specified market, and

(ii) issue directions to any producer or dealer to supply Gur to such areas or markets or such persons or organisations, in such quantities, of such types, or grades, at such times, at such prices and in such manner as may be specified by the Controller.

(2) Every producer or dealer shall, notwithstanding any existing agreement with any other person, give priority to, and comply with, any directions issued to him under sub-clause (1).

7. No Gur, shall, after such date and from such area as the Controller may notify in this behalf, be offered for transport by railway or in any manner whatsoever by land or river by a consignor or accepted by a railway servant or by any person whatsoever for transport or trasported by rail, road or river except under a permit issued by the Controller in such form and subject to such conditions and in respect of such areas as he may from time to time prescribe:

Provided that this clause shall not apply to the transport by railway or in any manner whatsoever by land or river of Gur (a) by a *bona fide* traveller as part of his personal luggage or (b) under and in accordance with military credit notes or (c) under and in accordance with a permit issued by a Provincial authority before the date of this Order.

Explanation.—For the purposes of this clause Gur not intended for the personal use of the traveller and members of his family shall not be deemed to be his personal luggage.

8. The Controller may, by notification in the Official Gazette, make regulations for carrying into effect the purposes of this Order.

9. If any person contravenes the provisions of this order, then without prejudice to any other punishment to which he may be liable, any court trying the offence may order that any stocks of gur, together with the packages and coverings thereof, in respect of which the court is satisfied that the offence has been committed, shall be forfeited to His Majesty.

Control over Movement of Gur

Under a Food Department Notification No. II S.C. (9)/44 dated the 25th March 1944, Gur Controller for India announced that no gur shall be offered for transport by railway by a consignor or accepted by a railway or transported otherwise by land or water from any place outside the area specified by him to any other place except under a permit issued by the Gur Controller for India.

The specified areas are Gur surplus areas from which no gur could be moved to other provinces except under a permit from the Government. The order placed a ban on all private movement of gur from one area or province to another.

THE UNITED PROVINCES MOLASSES CONTROL ORDER, 1944

With a view to regulate the prices and disposal of Molasses in U.P., the Government promulgated by a notification dated the 13th March 1944, the United Provinces Molasses Control Order. Similarly the Bihar Government

also instituted control over molasses and directed disposal of them. A summary of the important provisions of the U. P. Molasses Control Order is given here:—

Clause 3 of the Order reads:—

(i) Every owner or occupier of a sugar factory shall furnish to the Excise Commissioner, U. P., in a specified manner returns relating to stocks of molasses in his possession as required.

(ii) Any person, other than the owner or occupier of a sugar factory, holding stocks of molasses shall furnish to the Controller such returns relating to the stocks of molasses in his possession as required.

Clause 4 of the Order lays down that no person shall export, or cause to be exported by rail, river or road, molasses outside the United Provinces except on such terms and conditions as may be prescribed by the Excise Commissioner or Controller as the case may be.

Under clause 6 of the Order no person shall move by rail or river from any place in the United Provinces to any other place in the United Provinces except with the permission of the Excise Commissioner or Controller as the case may be.

In pursuance of clause 8 of the United Provinces Molasses Control Order, 1944, the Governor was pleased to direct that the molasses mentioned in the statement below shall not be sold or offered for sale in the area noted against each at prices higher than those mentioned against it. The prices are ex-factory prices and inclusive of the cost of loading a tank wagon where transport is by rail and of filling the containers where transport is (*a*) by rail but not in a tank wagon or (*b*) by any means other than by rail.

Serial No.	Kind of Molasses	Area	Maximum Price per maund	
			Ordinary or liquid molasses	Cheeta or concentrated molasses
			Rs. a. p.	Rs. a. p.
1	Cane molasses the final residual by-product of sugar factories manufacturing sugar from sugar foctories.	Meerut Division.	0 6 0	1 0 0
2	Cane molasses the final residual by-product of sugar factories manufacturing sugar from sugar-cane served by railway stations on the Broad Gauge or by stations both on the Broad Gauge & the Metre Gauge.	Any place in U.P. except the Meerut Division.	0 4 0	0 12 0
3	Cane molasses the final residual by-product of sugar factories manufacturing sugar from sugar-cane served by railway stations on the metre gauge only.	Do.	0 2 0	0 8 0
4	Gur molasses the final residual by-product of sugar refineries operating on vacuum pan system.	Any place in U.P.	0 6 0	1 0 0

INDIAN CENTRAL SUGAR-CANE COMMITTEE FORMED IN 1944

The Government of India announced their decision to set up a Central Sugar-cane Committee by a resolution No. F 41–24/43A dated 6th June 1944, of the Education, Health and Lands Department.

The following is the text of the Government resolution, dated 6 June 1944, published in the *Gazette of India.*

Taking into account the expansion of sugar-cane research work and envisaging considerable further developments in the near future and the need for post-war re-adjustments, the Sugar Committee of the Imperial Council of Agricultural Research in October 1941, recommended that a Central Sugar Committee should be constituted on the lines of the Indian Central Cotton Committee and with somewhat similar powers and functions. This resolution was endorsed by the Governing Body of the Imperial Council of Agricultural Research in July, 1942. The Government of India agreeing with the Sugar Committee and the Imperial Council of Agricultural Research, have eccepted this recommendation in principle and decided to set up a Central Sugar-cane Committee, which will be a body corporate registered as a society under the Registration of Societies Act (XXI of 1860) with Head Quarters at Delhi or such other place as the Committee may decide.

Functions :—The functions of the Indian Central Sugar-cane Committee will be to undertake the improvement and development of the growing, marketing and manufacture of sugar-cane and its products in India and of all matters incidental thereto. This includes items such as agricultural, technological and economic research on sugar-cane, gur, sugar and their by-products, the improvement of crop forecasting and statistics, the production, distribution and testing of improved varieties, the adoption of improved cultural practices, enquiries and recommendations relating to banking and transport facilities and transport routes, the maintenance of an Institute of Sugar Technology and other similar matters. The control over the Institute of Sugar Technology will vest in the Committee along the lines indicated later. The Committee will also advise the Central and Provincial Governments concerned on any points which may be referred to it by them, provided the subject matter of the reference falls within the prescribed functions of the Committee.

Constitution :—It is desirable that the growers, the manufacturers and the traders should be fairly represented on the Committee. Subject to a reserve power of nomination by the Governor-General-in-Council so as to permit of appointments to the Committee to meet requirements that may vary from time to time, the Committee will be constituted as follows :—

(1) The Vice-Chairman, Imperial Council of Agricultural Research, who shall be *ex-officio* President of the Committee.

(2) The Agricultural Commissioner with the Government of India.

(3) The Director, Imperial Agricultural Research Institute.

(4) The Director, Imperial Institute of Sugar Technology.

(5) The Agricultural Marketing Adviser to the Government of India.

(6) The Imperial Sugar-cane Expert.

(7)-(14) The Directors of Agriculture, Madras, Bombay, Bengal, United Provinces, Punjab, Bihar, Mysore and Hyderabad or their nominees.

(15)-(16) The Cane Commissioners, United Provinces and Bihar.

(17)-(25) Nine representatives nominated by the Indian Sugar Mills Association, of whom at least two shall be representatives of the Indian Sugar Producers' Association, one representative of the Deccan Sugar Factories Association, one of the Indian Southern Provinces Sugar Marketing Board and one of the Bengal Sugar Mills Association.

(26) One representative of Sugar Factory Owners nominated by the Governor-General-in-Council.

(27)-(30) Four representatives of the Gur and Khandsari Industry nominated by the Governor-General-in Council.

(31)-(38) Eight non-officials represeuting agricultural interests, one nominated by the Government of Madras, one by the Government of Bengal, two by the Government of United Provinces, one by the Government of Punjab, one by the Government of Bihar and two by the Governor-General-in-Council to represent other areas.

(39)-(41) Three representatives of Sugar Trade—one nominated by the Bombay Sugar Merchants' Association, one by the Cawnpore Sugar Merchants' Association and one by the Indian Sugar Syndicate.

(42)-(44) Three representatives nominated by the Governor-General-in-Council to represent the consumers.

(45) One representative of Sugar Technologists nominated by the Governor-General-in-Council.

The tenure of the appointment of the members of the Committee other than those who are appointed by reason of the office or appointment they hold, will be three years with effect from the 1st April of the year in which they are appointed or such lesser period as may be specified in the notification.

The Secretary of the Committee, who will not be a member of it, will be appointed by the Governor-General-in-Council, but he will be paid from the funds of the Committee. The Director of the Institute of Sugar Technology will continue to be a servant of the Government of India. His salary and allowances will also be paid from the funds of the Committee, but the Government of India have agreed to meet his leave and pension contribution. The Committee will continue to employ at the Institute of Sugar Technology from its own funds such staff as has been tent to the Institute by the Government of the United Provinces on the same basis on which they are at present employed by the Government of India, as also such other staff as are at present on contract till such time as contracts expire.

The Committee will continue to maintain the Imperial Institute of Sugar Technology both as a teaching and as a research institution and will be responsible for the maintenance of sugar standards. Returns under the Sugar Production Rules, the maintenance of sugar trade information services and any special work

that may be required by the Central or by any Provincial Government will be directly under the control of the Director of Institute of Sugar Technology.

Funds of the Committee:—The Government of India will finance the Committee by placing at its disposal the entire proceeds of the Sugar Excise Fund; the amount so credited shall continue to be one anna per cwt. of white sugar produced in British India out of the excise duty levied on it. The question of increasing this amount will be considered after the war. If the amount placed in the Fund in any year falls short of the needs of the Committee, the Government of India will automatically grant a loan free of interest to cover the deficit and enable the Committee to incur expenditure upto a limit of Rs. 11.75 lakhs in the year subject to the condition that the first charge on any surplus occurring thereafter will be the repayment of this loan. The Committee will meet all the present liabilities of the Fund and take over all its assets.

COMPOSITION OF THE INDIAN CENTRAL SUGARCANE COMMITTEE

Under Department of Education, Health and Lands Notification No. F. 41–1/44A, dated the 11th October 1944, it was announced that the following persons had been nominated as Members of the Indian Central Sugarcane Committee.

The first sixteen seats of the Indian Central Sugar-Cane Committee are given to the Officials of the Government of India and the Provinces. The non-official members representing various interests are:

Lala Gurusharanlal, Mr. R. L. Nopany, Mr. K. K. Birla, Lala Shanker Lal, Mr. D. R. Narang, Mr. C. W. Tosh, Mr. Lalchand Hirachand, Mr. A. A. Khan, Mr. B. P. Dalmia, Dr. Chr. H. Nielsen, Mr. Nasirullah Rahman Kidwai, Mr. Banchhanidhi Kar, Sardar Iqbal Singh of Iqbalnagar, Mr. Jagdish Saran Agarwal, Mr. V. T. Ramaswami Ayyar, Mr. Hamidul Haq Chowdhury, Raja Raghvendra Pratap Narain Singh, Lala Har Sahai Gupta, Sardar Santokh Singh of Shakot, Jullunder, Mr. S. Bose of Hasanli concern, Rao Bahadur Shembhedkar, Mian Abidul Huq, Seth Maneklal Ujamshi, Lala Daya Ram, Mr. Karamchand Thapar, Mr. G. V. Deshmukh, M.L.A., Sir Muhammad Yamin Khan, M.L.A., Hon. Mr. Hossain Imam, Sir T. S. Venkataraman.

Lala Shanker Lal was elected Vice-President.

RESOLUTIONS OF INDIAN SUGAR MILLS ASSOCIATION, 1944

Some Important Resolutions passed at the 12th Annual General Meeting of the Indian Sugar Mills Association held on 16th September 1944.

Shrinkage in Cane Acreage

This Association views with grave concern reports of shrinkage in cane acreage for the season, 1944–45 particularly in Bihar and Eastern U. P. as a result of low sugar and cane prices fixed last year by the Central and Provincial Governments as compared to the general rise in prices of other competitive food crops. The Association regrets that while Government did not agree to increase

the cane prices inspite of Association's several warnings about the possibilities of shrinkage in cane acreage, hardly any steps were taken to ensure that there was no such fall in the area devoted to cane plantation. As a result, this Association apprehends a considerable curtailment in the sugar production of the country in general and in Bihar in particular, and, therefore, urges the Government of India to take immediate steps to maximise sugar production during the season 1944-45, and to ensure that there is an adequate increase in the cane plantation for the season 1945-46.

Distribution of Sugar

This Association regrets that inspite of three years' Government control over the distribution of sugar, its shortage continues and that at many places people have to pay more than the controlled rates for their requirements. This Association is of considered opinion that besides the necessity of increased production the existing machinery of distribution, which works through official channels and seeks little co-operation from the industry and public, needs a thorough renovation. This Association, therefore, strongly urges the Government to take immediate steps in this direction.

Molasses Control Order in U. P. & Bihar

This Association regrets that the Governments of U. P. and Bihar have promulgated Molasses Control Orders to control the movement of molasses although even the elementary conditions necessary for the control of a commodity, such as shortage in supply or an abnormal rise in prices etc., are completely absent. This Association has all along been opposed to the institution of any control on molasses, because

(1) the supply of molasses in the U. P. and Bihar is far in excess of even the increased demand for molasses.

(2) the average price of molasses obtained by the factories in these two provinces was below the level of the prices of other commodities.

(3) the restriction on the movement of molasses has resulted in the accumulation of huge stocks thereby putting the factories to serious difficulties as regards its shortage, particularly, when new tanks cannot be constructed due to scarcity of materials.

This Association, therefore, urges the two Governments to withdraw the Molasses Control Orders forthwith.

Levy of an Export Duty on Molasses in U. P. & Bihar

This Association protests against the action of the U. P. and Bihar Governments in levying an export duty of Rs. 2/- per maund which has been lately reduced to Re. 1/- per maund. This Association is of the considered opinion that even the reduced duty is disproportionately high as compared to the low prices of molasses which vary between -/2/- to -/8/- per maund.

Restrictions on the Transport of Cane

This Association regrets that the Railways and the Provincial Governments propose to impose restrictions on the transport of cane during the next crushing season which are likely to curtail the cane supplies to the factories very considerably.

This Association invites Government's attention to the peculiar conditions prevailing in the Sugar Industry such as the perishable nature of the raw material, the seasonal nature of its working and the continuous process of manufacture which render it essential that the crushing operations must be carried out within certain time-limits and without any interruptions. This, in the opinion of the Association, is possible only if the Government extend to the sugar factories the necessary transport facilities.

This Association, therefore, urges the Government not to enforce restrictions on transport of cane.

RESOLUTION ON THE MAXIMISATION OF SUGAR PRODUCTION (1945)

The Government of India, Food Department, convened at New Delhi, a Conference of all the representatives of sugar interests and Provincial and State Governments on the *5th February 1945*, to consider measures for the maximisation of sugar production in the country. The Indian Sugar Mills Association was represented at the Conference by Lala Shankerlal, Mr. K. K. Birla, Mr. C. W. Tosh and Mr. Gulabchand Hirachand. The Conference adopted a number of resolutions detailing the steps to be taken for the maximisation of sugar production in India in the immediate post-war years. It is understood that the Government of India have promised to take necessary action to implement the decisions arrived at the Conference.

A summary of the main decisions arrived at the Conference is given below:—

1. That it is the intention of the Government to maximise sugar production in India during the current season and the coming season. Steps shall be taken to step up production during the next season of 1945–46.

2. That efforts would be made to arrange adequate supplies of the following manures for the cane growers: (a) ammonium sulphate, (b) caustic cake, (c) groundnut cake, (d) superphosphate, and (e) neem cake.

3. That Government would also undertake distribution of subsidised manures to cane growers through the factories.

4. That efforts would be made to provide adequate irrigation facilities to the cane growers. In this connection, it was urged that the Government of U. P. be urged to withdraw the increase in the irrigation charges, as enforced by them for the cane growers only.

5. That agricultural machinery such as tractors, etc. would be made available to the factories running their own farms.

6. That the Co-operative Societies undertaking the supply of cane to the sugar factories should resort to selective harvesting, that is, selecting cane cording to maturity so that factories receive fully mature cane giving maximum recovery. This would enable factories to obtain higher recoveries.

7. That the minimum cane price would be declared in early *September* every year.*

8. That facilities would be arranged for the factories which were shifting from deficit cane areas to surplus cane areas to enable them to catch the next season.

9. That the Provincial Governments would not take any action without previous reference to the Government of India, which might adversely affect the sugar production. *In this connection, it was also agreed that the Government of Bombay be urged to exclude the cane growers, whether companies or individuals, from the operation of the Bombay Growth of Food Crops Act, 1944, as that was likely to curtail sugar output of the province during the 1945–46 season.*†

10. That the lack of tranport constituted a serious bottleneck in obtaining cane from outstations and, therefore, efforts should be made to arrange for adequate supplies of trucks, petrol, tubes and tyres and to increase wagon supply on the respective railways with a view to enabling the factories to draw as much cane as possible.

It was also agreed, in this connection, that only a free supply of wagons could improve production during the current season of 1944–45.

11. That steps would be taken to control both the price and movement of Gur effectively.

12. *That the sugar prices would be revised, if necessary, in the light of the recommendations of the Joint Sugar Control Board of the U. P. and Bihar at the end of this crushing season but with retrospective effect.*

———:o:———

A WORLD SUGAR PICTURE AND INDIA'S POSITION THEREIN

DO YOU KNOW (it would be interesting to know) that:

1. Sugar is one of the cheapest, most universally used and palatable seetening agent of proved high calorific value, unique for quick conversion into energy, contains 100 per cent carbohydrate and its value as a prime and vital food is enhanced due to the shortage of carbohydrate in general all over the world.

2. The world production of sugar 1944–45 was only of the order of 19 million tons as compared with 30 million tons in the pre-war year.

* The Editor of this Annual Mr. M. P. Gandhi, when he was a Member of the U. P. & Bihar Sugar Control Board moved such a Resolution in 1938 emphasizing the necessity of an announcement of cane prices, early in September, every year.

† We hope the Bombay Government will do this in the interest of the sugar industry in the Province.

3. It is essential for India to produce larger quantities of sugar both for meeting the increased internal requirements and also for exporting to neighbouring countries which are starved of sugar.

4. The drive for an all out production of sugar can easily result in production of about 15 lacs tons of sugar with the existing capacity of factories in India. When need for further increase in capacity is felt, it would be desirable to locate further factories outside U. P. and Bihar in order to arrange for a proper dispersal of the industry all over the country.

5. If the industry continues to be encouraged, India may eventually become a world sugar market, being one of the greatest sugarcane producers.

6. Approximately two-thirds of the sugar produced in the world is from sugarcane and balance from beet. (90 per cent of the beet sugar comes from the European countries.)

7. Production of sugar (including Gur) in India approximates to 26 per cent of the total cane sugar production of the world and to 16 per cent of the total sugar production in the world, both from cane and beet. (This refers to pre-war period.)

8. The area under cane in India, i.e. 4 million acres, which is only 2 per cent of the cultivated area in India, is approximately 35 per cent of the world's sugar cane area.

9. Taking Gur and sugar together, India is the largest single sugar-producing country of the world.

10. The total quantity of sugar transported by railways in India per year comes to about one-thousandth of the total quantity transported by railways, viz. 90 crores tons.

11. A Sugar Research Foundation has been established in New York in 1943, comprising growers and processors of cane and beet sugar for research work in increasing the consumption of sugar through the development of new industrial uses, and establishment of a proper place of sugar in the diet.*

12. It is worthwhile to explore the possibilities of production of sugar and gur through palm trees in India.†

13. The number of factories, working by the sulphitation process, in India is 144 as compared with 17 working by the carbonatation process which latter can produce superior quality of sugar at a slightly higher cost.

14. The Indian Sugar Industry—the second largest national industry of the country—represents investment of capital to the extent of about Rs. 33 crores.

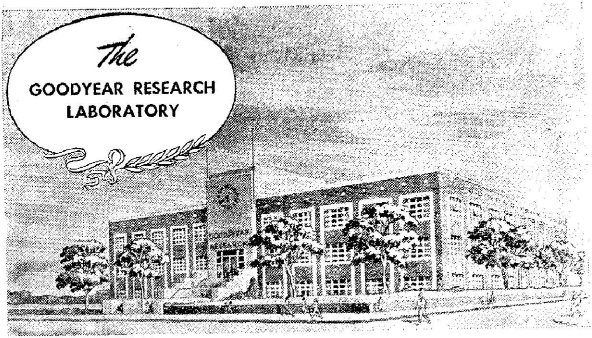
15. The total annual value of sugar and Gur produced is about 100 crores.

16. The industry gives employment to 3,000 graduates, 1,00,000 skilled and unskilled workers, and interests not less than 20 million cultivators, and helps to retain in the country a sum of Rs. 16 crores which was being sent abroad.

M. P. GANDHI

* Vide "Problems of Sugar Industry in India—Scope and Prospects of Re-organisation", by Mr. M. P. Gandhi, with a foreword by Sir Purshotamdas Thakurdas, K.B.E., C.I.E. 375 Pages. Rs. 12. To be published in October, 1945.

† Vide Appendix III of the above volume.



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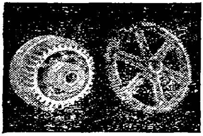

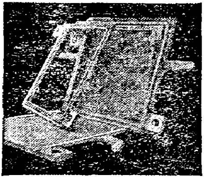

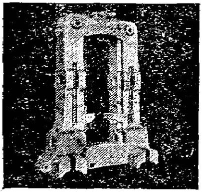

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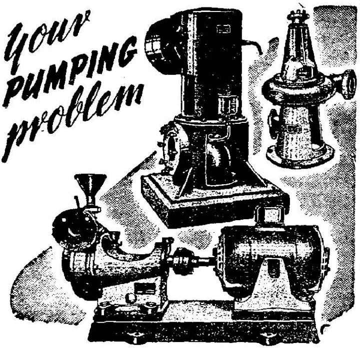

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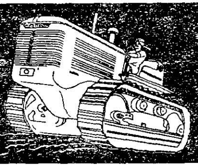

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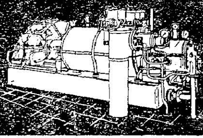

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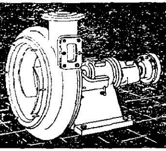

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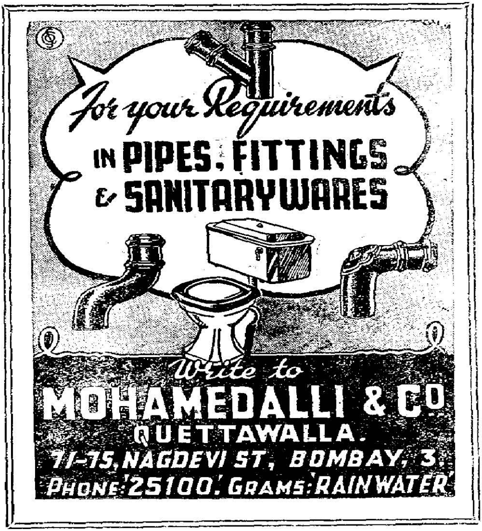
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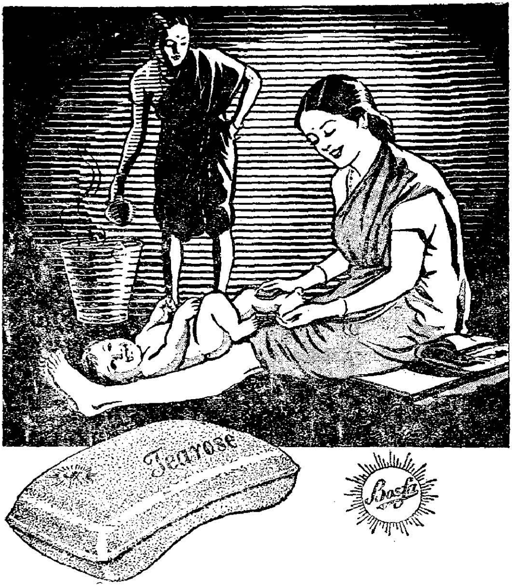

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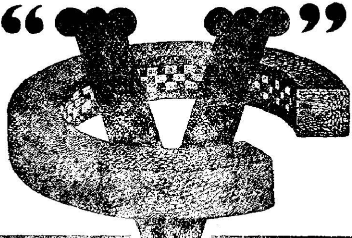

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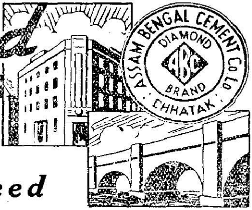

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THE INDIAN SUGAR INDUSTRY—
(1944 ANNUAL)

EDITOR: M. P. GANDHI

(A Review of the Sugar Industry in India during the 1943-44 season and comments on the 1944-45 season).

Introductory

The 1943-44 season will go down as a memorable and momentous year in the annals of the Indian Sugar Industry for more than one reason. Firstly, it is the most outstanding year in the midst of the Second World War when every industry has been geared to its highest pitch of production and called upon to contribute its utmost to the supreme and unprecedented needs of war. The impact of the war on the economy of the country was fully felt during that period and led to several repurcussions in the working of every industry including the sugar industry. Secondly, it is the year in which the Sugar Industry in India made an impressive contribution by setting a war-time record for production, and thus helping in the furtherance of the campaign for maximisation of sugar production in spite of numerous handicaps of non-availability of new materials, sulphur, etc. Production was the highest on record in the United Provinces while for the whole of the country, it was only slightly less than the record output of 1939-40. The area of sugarcane planted was estimated at 4,113,000 acres as against 3,600,000 acres in the year 1942-43, showing an increase of 14 per cent. As against the production of 10,70,700 tons of factory sugar in the previous season, the output of mills for the year 1943-44 reached the figure of 12,16,400 tons thus showing an increase of 13.61 over the previous season. On the whole, therefore, the season 1943-44 proved to be one of full production for the Indian Sugar Industry.

Working of the Season 1943-44

In the season 1943-44, 151 factories worked out of a total of 164 factories existing in India. The cane-crushing season in U. P. and Bihar started rather late while in other provinces the duration of the season was longer than in the above two provinces. In U. P. the crushing of cane by factories began briskly in the second week of November and lasted till the end of the second week of April, while in Bihar it began in the last week of November and ended with the first week of May. In "all other provinces," the season lasted longer covering the six months from November to April. In provinces other than U. P. and Bihar, the crushing was irregular and it began early in some places and late in other places, the season lasting in some cases till the end of May, 1944. The maximum number of days worked by any factory in India reached the figure of 255 days while the average number of days for the whole of the country was 117. Due to a favourable

crop season for the sugarcane, the rigorous and strict enforcement of the Gur Control Order, elimination of the bottleneck of rail transport and coal shortages and supply of adequate quantities of cane to the mills, etc. production of sugar was maintained at a high level, despite the late starting of the crushing season in some areas, increased cost of production and the difficulties in procuring stores and other materials necessary for sugar production. The only provinces in which there was a decrease in production compared with the previous season were Bengal and Bihar. The conditions of famine and the break-down in the economic fabric of the province of Bengal were responsible for the decrease in production of sugarcane crop and consequently of sugar production as well. In Bihar there was acute shortage of cane, while in Bengal, for various reasons, many factories did not work to full capacity. But on the whole the sugar industry did well in the season 1943-44 and showed its remarkable powers of resilience to meet the demands of abnormal war conditions and also increased civilian consumption.

Third Year of Control and Its Success

The third year of control over the industry can also be said to have achieved a fair measure of success. The machinery of control was perfected and improved in many ways by the method of trial and error. Controls have been made comprehensive and extended in their scope and operation. The comprehensive Sugar and Sugar Products Control Order of July 1943 superseded the earlier Sugar Control Order while strict watch was kept over the production, distribution, movement and prices of Gur in U. P. and Bihar. By the Gur Control Order forward trading in Gur was prohibited in U. P. and Bihar in 1943 and transport of Gur by any means to places outside the province without a permit from the Gur Controller was banned. The functions and powers of the Sugar Controller and Gur Controller of India were combined in one person and the Sugar Controller was also appointed as Gur Controller for India. Thereby the conflict that might arise by separation of the functions of the two offices was not only avoided but a harmonious and co-ordinated policy for all-India was worked out. Thus by a process of centralisation and concentration, a comprehensive and uniform policy of controls was evolved from out of the chaotic rules and regulations issued from time to time by the Centre and the Provincial Governments. In the place of previous piecemeal and ineffective legislation, an all-India Central Control over production, prices and distribution of sugar and sugar products was finally established. As remarked in last year's *Annual*, the recognition of mistakes in the operation of control measures and the rectification thereof accounted for the success of controls. This is not to say that there are still no loopholes lurking in the administration and operation of Sugar Control measures. Suffice it to note that a larger measure of success was achieved than before. Co-operation between the Provincial Governments, States and the Central Government which was lacking before was much in evidence as a factor conducing to the success of controls on the administrative side.

Industry Reconciled to Controls

Another noticeable factor during the year which accounted for the satisfactory results of 1943-44 season was the attitude of the industry towards the authorities and the controls in particular. The cry of de-

control of the sugar industry which was renting the skies in 1941 gave place to a sober reconciliation to the need and utility for some form of control in war-time. Despite administrative difficulties and the not unoften display of excessive authority by local officials in the enforcement of rules, there was in evidence a spirit of continued and healthy co-operation and understanding among the industrialists and the Government. The industry carried the burden of controls willingly and tried by timely criticism to help simplify the cumbrous details of administrative procedure. It may be pointed out that the mill-owners and managers accepted wholeheartedly the goal of maximum sugar production and at times almost forced the authorities into conceding their demands in pursuance of that policy and influenced official opinions considerably. Having accepted controls as necessary and inevitable in war-time, the industrialists concentrated their attention on improvement of the operation of controls and by public criticism tried to remedy the defects in the system. On the whole the industry and the authorities got on well as a team working for a common objective. This is the central and most encouraging fact for a hopeful future of the sugar industry in the final stages of the war and when transition from war to peace is about to take place.

Room for Improvement in Controls

This does not mean that there was left nothing to be desired and that everything in the Garden of Eden looked rosy and smiling. There were, on the contrary, many shortcomings in the scheme of things and one such was the impudent spurning of the hand of co-operation offered by the Indian Sugar Syndicate in the matter of distribution of sugar in U.P. where it maintained a chain of selling depots for the orderly disposal of sugar to the consumers at their door. Again, the industry several times urged the abolition of the deduction of two annas per maund in the price paid to the cultivators of sugarcane in U.P. and Bihar for investing the sum compulsorily in Defence Savings Certificates, but the authorities paid no heed to the advice until late in 1945 when they were forced to suspend it. Similar apathy was also shown in the case of the pleadings of the industrialists for increase in the prices of sugar, and cane-crop. Although by mutual contact and honest discussion of the problems round the table, many of the differences were ironed out, it cannot in general be gainsaid that there is still a lack of confidence on the part of the authorities towards the leaders of the industry. It will be in the interest of all if the industry and the sugar dealers are to be taken even now more directly into the confidence of the authorities in the enforcement and working of controls and the general policies relating to the sugar industry. The post-war planning schemes of the Government of India, and also of the U.P. and Bihar Governments cannot be properly inaugurated in due time if there is not complete co-operation of the industrialists concerned. Moreover, such vital problems as import of machinery and stores and the economic effects of transition from war economy to peace and plenty economy cannot be tackled by the authorities without the help of the industrialists. Mutual trust and co-operation, besides, is all the more important as no controls will succeed unless there is complete support of the trade and the public behind the authority.

Rationing in Urban Areas and Consumption of Sugar

The increased internal consumption of sugar and military demands necessitated the continuance of rationing of sugar which was introduced in the urban areas in 1942. Big cities like Bombay, Calcutta, Madras, Delhi, etc. where the *per capita* consumption of sugar is high in India were required to adjust themselves to the inadequate allowances and quotas allotted to them under rationing. It has been pointed out by some that it would be desirable for Government with the present level of production to provide more liberal quotas in the cities for individuals and thereby increase consumption to make up for the deficiency of other energising and nutritive foods. Cutting down compulsorily the consumption of sugar in the country by rationing will prove harmful in the long run for the permanent interests of the industry when once the abnormal demands of war disappear. But the authorities do not seem to have heeded these appeals as no increases were so far promised in the individual ration quotas. In the rural areas where the consumption of Gur normally exceeds that of sugar no attempt for rationing of sugar was made because of the difficulties involved in the process of distribution. Since 1942 consumption quotas for each Province and State were fixed on the basis of previous figures of consumption in that area and the Sugar Controller was entrusted the work of proper distribution and supply of sugar to the different areas from the all-India pool consistent with the need of economy in transport.

Chief Features of 1943-44 Season

The season 1943-44 was characterized by one aim, viz. to make an all-out effort to produce the maximum quantity of sugar and every inducement in furtherance of it was offered. Production of sugar by factories from cane totalled 12,16,400 tons. The U.P. contributed 7.3 lakh tons while Bihar contributed 2.1 lakh tons. The excellent results of the season were due to a number of factors. Firstly, as grain prices gradually went down and with it gur prices also due to strict controls, the minimum cane price of 12 annas per maund despite the usual savings deductions of 2 annas, proved to be adequate enough to attract cane to factories. The gur control measures especially in U. P., proved very effective and there was a good sugarcane crop in the province. That is why out of 12.16 lakh tons of factory made sugar in India, 9.4 lakh tons, i.e. more than 75 per cent was supplied by U.P. and Bihar. In other provinces also production was satisfactory as the contribution from factories stood at 2.75 lakh tons. Secondly, distribution of sugar was also fairly satisfactory, although black markets were reported in several places in Bengal and Punjab. The Sugar Controller and the authorities holding delegated powers from him acted promptly in arranging wagons for transport of sugar from factories to the consuming centres and the stock position was satisfactory. The total physical stock at the commencement of the season 1943-44 on 1st November 1943 was about 1,20,000 tons and this could not be considered heavy. It was also gratifying to note that sugar despatches were kept at reasonable levels and despatches from U.P. and Bihar to the deficit provinces amounted to 70,263 tons on a monthly average. Thus the easy disposal of stocks by mills was one of the most remarkable features of the season. It may be pointed out that before the cane-crushing season of 1944-45 opened, i.e. on the 31st December 1944 there was only 94,000 tons of old season's sugar

to go into consumption and for this achievement credit should be given to the Sugar Controller for arranging transport facilities.

Thirdly, the recoveries obtained in the season 1943-44 were also satisfactory, the average being 9.9 for U. P. and 10.5 for Bihar while the all-India recovery stood at 10.02.

Lastly, there was good demand within the country for almost the entire output of sugar. The demand both of the Defence forces and the civilian population also increased. Owing to cessation of imports sugar was required for the manufacture of confectionery and other sweetening things. The present productive capacity of the industry is hardly equal to the demand and the country can easily absorb even an output of 15 lakh tons, with a slight improvement in the economic conditions. There is, therefore, scope for continued drive for production of more sugar.

World War II Opens A New Chapter for Sugar Industry

As mentioned in the previous *Annuals*, the war completely changed the outlook of the sugar industry in India. Several new factors came into existence and the industry worked under abnormal conditions created by war. The season 1939-40 marked the beginning of new era and it also closed a chequered period in the fluctuating fortunes of the sugar industry since the grant of protection for the first time in 1932. For an industry suffering from low prices, depression and want of outlets for disposal of accumulated stocks in factories, the war created an unprecedented demand. As the impact of war was felt slowly on the economy of the country, the demand for sugar was also increasing gradually till the end of 1942 when it reached high levels owing to the Japanese war and loss of Java and Phillippines.

The history of the sugar industry in the pre-war years was characterised by alternate periods of prosperity and depression and sugar producers experienced difficulties in bad times. Although the sugar industry since the grant of protection made remarkable strides of development, it did not gain that momentum and stability which were usually associated with manufacturing trades. A number of factors like the vagaries of sugarcane crop cultivation, crop pests and diseases, the imposition of excise duty and frequent increases therein, the control of the affairs of sugar in certain provinces, the introduction of sugar cess, restrictions on acreage and output, the low prices for *gur* and sugar, the slack demand for sugar in the country, difficulties in production of sugar at the mills and the possibilities of foreign imports swamping our markets, etc. contributed to the ills and instability of the industry in the period before the outbreak of the war. The two years preceding the outbreak of war in September 1939 were years of depression for the sugar industry and with low prices, factories were finding it difficult to dispose of the stocks. The record production of 1939-40 only accentuated the situation by piling up huge stocks at mills which were striving hard in search for consumers. This was the position before the war.

Industry affected by War, at a late stage

As mentioned above, the world catastrophe changed the whole perspective and the sugar industry gradually entered into a new phase. Market for all sugar produced in India was first assured because of military demands.

But the sugar industry, like the coal industry, was not in any way affected by the war till a very later stage. The reasons were not difficult to seek. Till the fall of the Netherlands East Indies, the Phillippines and other sugar producing areas in the Far East, Indian sugar producers were not touched in any way. But with the spread of war into the Far East and the occupation of Java and other islands, which accounted for nearly 2 million tons of sugar, the burden of bearing the brunt of sugar supplies in the East for Allied armies fell upon the Indian sugar industry. The sugar industry revealed its enormous potentialities under the stress of war and tried its best to meet satisfactorily all the demands made upon it.

Effects of War on Sugar Prices

In December 1941, Japan made a sudden attack on U. S. A. by bombing Pearl Harbour. It rapidly marched its forces and conquered vast territories in the Far East. The Phillippines, Malaya, East Indies, Burma and other important places went into enemy hands within a short time. The first crippling blows staggered the United Nations and the victories of Japan created considerable panic. The initial effect of Japanese victories was rather bearish on the Indian markets and prices declined everywhere. The confusion and uncertain conditions attendant in the wake of enemy successes persisted in the Indian markets for a number of months and it was feared that the enemy might even attack India itself. It was only late in 1942 that there was an intensification of the Indian war effort and the resources of the country were fully harnessed. The year 1943 witnessed fuller mobilisation of men and materials for the defeat of the enemy. Simultaneous with the mobilisation of economic resources, the sugar industry, like other industries, also was pressed into war service and prices began to gradually recover to the normal from 1942 onwards. With increased Allied war expenditure in India, an upward swing in prices began. For our purpose, it is enough to remember that the sugar industry was directly influenced by war only at a very late stage and as a result of international developments at the end of 1941.

Sugar Industry's Controlled Profits

With the entry of Japan into the war and the loss of sugar producing areas in the Far East, the entire outlook of sugar industry in India was changed and the industry assumed a different complexion. It became clear that the sugar industry in India was to undertake the entire burden of war supplies in the East and also the additional responsibility of filling up to some extent the gap left by the elimination of Java from the world's sugar markets. With the opening of unlimited demand outlets for sugar, the stock position improved in a short time and all restrictions on output were removed. Since 1942-43 it has been the aim of the industry to maximise the production of sugar and take advantage of the new factors for increased demands of sugar. Simultaneously anticipating the new demands for sugar due to war, the Government of India stepped into the field to control prices of sugar. It was felt that owing to Java being out of the world market, there would be an undue rise in prices and that it was necessary to secure complete control over the sugar industry in the interests of war. An order was passed controlling prices as well as distribution of sugar on the 14th April 1942. Thus the sugar industry was the first to come under war-time industrial controls. A Controller of Sugar was immediately appointed to

deal with the problems of sugar industry. Due to prevailing depression in the previous two or three years prices were fixed low and as time went on prices had to be revised according to the exigencies of the situation. Therefore, being the first industry to come under controls, the profits of sugar industry were mainly official-controlled profits, fixed before the inflation set in motion a train of economic forces that wrought havoc in 1943 and 1944.

Comparison with Cotton Textile Industry

It will be of considerable interest to compare the position and profits of the Sugar Industry with the Cotton Textile Industry, the first biggest national industry in India. It must be observed at the outset that owing to controls the sugar industry was not allowed to take advantage of the improved war conditions and high profits of later years. On the ground of having been accorded a liberal measure of protection, prices of sugar were fixed at a low stage and no allowance was made to increased costs of production thereafter. The sugar industry for its output depends in any year on the sugarcane cultivated in that particular year and mills work only in the crushing season which does not usually last more than four months. The position with the cotton textile industry differs entirely in this respect. With abundant supplies of Indian cotton always available, textile mills can work throughout the year by intensification of effort with the same plant.

The cotton textile industry was directly influenced by war almost at the commencement of the hostilities. The fall of France in 1940 and the blockade of the Mediterranean by the Axis made it evident that in a short time the Indian textile industry was to come into the picture of war supplies. The improvement in the conditions of the Indian cotton textile industry began with the advent of the Eastern Group Council in 1940. The industry was again directly affected by the Japanese war. With the absence of Japan as competitor in the Eastern area and the intensification of war-effort and consequent high demands for war purposes, production of cloth and yarn by mills rapidly increased. With Indian cotton freely available at low prices, mills made an all-out drive for production and benefited very much by war conditions. The profits made by the cotton textile industry were staggering until there came into being a cloth famine coupled with high prices for cloth in June 1943. The profits made by some mills were as high as 400 per cent in the year 1943 before controls were instituted. Control over the affairs of the cotton textile industry came only in June 1943 when prices reached peak levels.* Therefore the Indian manufacturers of cloth enjoyed a period of great prosperity. Although the prices of raw cotton increased very much due to inflation and war, the prices of manufactured cloth were so high that mills were encouraged to produce more cloth and make larger profits. The deflated levels of cotton piecegoods and yarn even under control regime were so high that it was found highly profitable to manufacture more and more cloth. The central fact to be noted is that controls over the textile industry came rather belated and only when prices reached the maximum possible levels. It is for these reasons, it may be stated without fear of contradiction, that for the sugar

* For a study of the position and vicissitudes of the Cotton Textile Industry of India, *vide* Mr. M. P. Gandhi's Indian Cotton Textile Industry Annual for 1944.

industry during war there has never been an approach to the prosperous conditions prevailing in the cotton textile industry. But all the same the sugar industry was able to enjoy comparatively easy conditions in war-time.

Record Production in 1939-40: *Restricted Output in* 1940-41 *and* 1941-42

The first year of the war witnessed record production for the sugar industry in India and the total production, due to a number of favourable factors, including a large cane crop, touched the figure of 12.41 lakh tons for 1939-40. In the season 1940-41, restriction on output was imposed due to the accumulated surplus stocks at the mills. The total production of sugar for that season amounted only to 10.95 lakh tons. Even with this smaller production, the demand position for sugar did not show any signs of improvement. On the other hand in port towns the competition of imported sugar was keenly felt. Due to lack of demand for sugar produced in U. P. and Bihar, the two Governments were obliged to enforce a policy of restricted cane acreage and limited output by the sugar mills in their area. The effects of restricted output were felt in the next year. The year 1941-42 was one of the shortest cane-crushing seasons and production amounted to only 7.78 lakh tons for that year. The difficulties in the way of disposal of surplus sugar stocks persisted throughout the year 1941. It was only when Japan entered the war at the end of 1941 and the initial effects of panic were overcome that a fair demand for sugar began to ease the situation from the point of rapid disposal of stocks. Huge outlets for the demand of sugar were opened and soon demand began to outstrip production. The policy of restriction pursued in the previous two seasons was abandoned and the sugar industry set before itself the aim of maximum production.

In the years between 1940-41 and 1941-42 the difficulties of the sugar industry were not of production but of orderly disposal and sale at fair prices. Hence, control in these earlier stages was mainly over distribution. As the industry had large surplus stocks on hand, suitable means had to be sought for proper disposal to the consumers. This was done by a double method: (*a*) by first restricting output in the main sugar producing provinces of U. P. and Bihar and, (*b*) by organising orderly disposal through the Indian Sugar Syndicate Ltd.

Central Control Over the Industry Assumed in April 1942

As pointed out above, the war with Japan created a new situation for the sugar industry in India. It was in the 1941-42 season that control was instituted over the industry by the Sugar Control Order of the Government of India which was brought into effect from the 14th April 1942. The sugar industry was thus the first industry to be brought under central control in India. A detailed reference to the Sugar Control Order and the powers conferred on the Government for fixing ex-factory prices for sugar registering dealers, control over the distribution of sugar from factories to specific markets, arrangements of transport facilities, fixation of consumption quotas for provinces, etc. was made in the previous *Annuals* (see 1942 and 1943 *Annuals*) and therefore it need not be repeated here.

At the time when control was established, everyone connected with the industry had the definite feeling that due to low prices fixed by the authorities the sugar producers had been unduly penalized and that the

Government were very severe in restricting the margin of profit for the sugar industry. It was also one of the grievances of the industry that before controls were brought into existence it was not consulted properly and that the suggestions made by the manufacturing interests in the matter of distribution and prices were completely disregarded. A section of the industrialists viewed the control measures with suspicion and took the line that controls were unnecessary and unwanted as they would hamper maximum production of sugar and free distribution of it through proper trade channels. There was a strong move urging de-control as the only means of restoring order in the sugar industry.

At the outset there were also a number of glaring defects in the operation of controls. Due to lack of experience and other handicaps in the beginning, existing channels of trade were not utilized and delays in despatches of sugar were frequent, causing considerable handicaps. The mills were also unable to adjust themselves to the new conditions. But in course of time the system of zoning and proper regulation of transport resulted in improved distribution of sugar towards the end of the year 1943.

The improvement in the conditions of distribution was more satisfactory in the second year of control and the Sugar Controller was responsible for the quick despatches of sugar to the various areas according to schedule. The stock position at the end of 1943 was very satisfactory and despite the congestion on railways due to war-effort, wagons for transport were found for as much as 7 lakh tons for the year 1942-43. The existence of "black markets" was curtailed to a greater extent than before, although black markets still prevailed at some places in the country due to the fact that the margin of profits allowed to the traders under control was very small.

Operation of Controls during 1943-44

The year 1943-44 witnessed greater co-operation between the authorities and the trade in the matter of controls and a stricter watch was kept over the production and prices of *Gur* also. A comprehensive Sugar and Sugar Products Control Order and a Gur Control Order were introduced to control the affairs of the sugar industry. The machinery of control and the administration of various rules were perfected and brought up-to-date to meet the requirements of the situation. Further improvements were effected in distribution of sugar and prices of sugar and cane were also raised. The Sugar Controller was also appointed as Gur Controller and a more direct control was acquired on all aspects of the sugar industry. The existence of the black markets was checked although here and there black markets persisted in distant centres in the country. As observed elsewhere, the elimination of mistakes and the perfecting of the machinery of controls resulted in more encouraging achievements for controls in the season 1943-44. The high production of the season was despatched to the consuming centres quickly and in time to meet the demands of the markets. The stock position at the end of 1943-44 season was also satisfactory.

Present Aim of Control to Maximise Production

It was said at first that the primary intention of control of the affairs of the sugar industry was one of fixation of prices and proper and equitable distribution of sugar in the country. But this limited scope of control had to be given up in favour of a comprehensive one due to war developments.

Since 1942 due to the international developments caused by Japanese conquests in the East, it had been the definite and recognised policy of the industry and the Government to maximise the production of sugar in India. The increased earnings of the people resulted in greater demand for consumption of sugar in the country, for sugar is an energising and cheap nutritive food. Secondly, the war has created vast military demands for sugar as India was the only biggest sugar producing country under Allied control in the East. The sugar industry was called upon to supply the needs of the Allied forces not only in India but also in the whole of Middle East and Africa. Thus internal consumption and the demands of Defence Services required the entire output of sugar. Moreover, the gap left by the elimination of Java sugar from world markets acted as an inducement for the sugar industry to increase exports. But as internal demands outstripped production, it had not been possible for India to take the fullest advantage of the export markets. It was known that in countries like Persia, Turkey and Iraq there had been almost a sugar famine and demand was very keen. In spite of the fact that India was no longer a signatory to the International Sugar Agreement, exports by sea were limited, due to the over-riding needs of war, to a definite quantity, viz. 15,000 tons for 1943 and 17,500 tons for 1944.* Thus, it was not possible consistent with the supply of internal needs to permit more exports during war-time. In accordance with the main aim of maximum production set before itself two years ago, the sugar industry tried its best and produced as much as 12-16 lakh tons in the season 1943-44, in spite of various handicaps of transport, shortage of coal, sulphur, etc.

Minimum Cane Price at Rs. 0-12-0 *per Maund in* 1943-44

In view of the results of the 1942-43 season as regards sugar production, the diversion of sugarcane for the manufacture of *gur* which had been commanding high prices and the need for encouraging cultivation of sugarcane by the grower in preference to other food crops, at the beginning of the 1943-44 season, a natural anxiety was felt by the representatives of the cane growers and the mills to further urge for an increase in minimum cane prices. In order to give the necessary incentive to both growers and producers the Governments of U. P. and Bihar agreed to fix the minimum prices of cane at 0-12-0 per maund before the season for crushing could start. It was stated by the mill-owners that to give necessary encouragement to the cultivator to grow cane it would be at least necessary to fix the price at 0-14-0 per maund as the minimum. The representatives of cultivators asked for a minimum price of Rs. 1-4-0 per maund. But the Provincial Governments thought that the minimum price of 0-12-0, coupled with the measures to control *gur* and food prices, was sufficient to induce the ryots to cultivate cane and deliver it to the mills. Again their anxiety to further the "Grow More Food" campaign also influenced the opinion of the Government on the fixation of a lower minimum price for cane.

Delayed Payment of 0-2-0 *in Defence Savings Stamps*

In 1943, the Government of India, with a view to check the rise in prices and to mop off the surplus money in the country, announced their anti-inflationary savings drive. In their desperate anxiety to put into effect

* *Vide* statements by the Hon'ble Food Member in the Legislative Assembly, in 1944.

the compulsory small savings scheme, they hit upon the cultivator of sugarcane crop in U.P. and Bihar. It was thought that in U.P. alone a sum of Rs. 3 crores could be put in Defence Savings if a deduction at the rate of 0-2-0 per maund of sugarcane price paid to the cultivator was enforced as an anti-inflationary measure. Therefore, while announcing the increase of minimum price of cane from 0-10-0 to 0-12-0, they ordered that out of the minimum price fixed only 10 annas per maund was to be paid in cash by factories to the cultivators and the remaining 2 annas was to be paid to them in Defence Savings Stamps or Certificates which could be cashed only after the war was over.

The system of payment of 0-2-0 per maund in National Savings Certificates to the cultivators had been a matter of much public criticism by the cane-growers and the mill-managers since the last two years. It lent itself to much abuse and resentment on the part of growers as well as the mills. The cultivator harboured the vague feeling that the factory-owners and the Government had entered in an unholy partnership to fleece from him a sum of 0-2-0 per maund which rightly belonged to him as price for his produce. He did not understand the full implications of the Government's savings drive. Moreover, as the majority of cultivators in India, even in the most promising years of good harvest and high prices, could not affect much savings, it seemed that the cultivator of sugarcane, of all the peasants, had been singled out for this unfair treatment and had been penalised for growing sugarcane. The psychological feeling that something due to him had been taken away from him was likely to cause harm for the sowing of sugarcane for the next season. The mills, anxious to secure abundant supplies of sugarcane for the next season urged the Governments to abolish the system, and allow cash payment for the whole of the crop delivered to the mills. The fear that the cultivator would take to other food crops in preference to cane because of the greater monetary reward induced the factory-owners to ask for the abolition of the delayed payment system. Moreover, the system of delayed payment in National Savings Stamps involved more work for the mills.

The ryots did not take kindly to the system of payment in Defence Stamps, as the bulk of them were in need of cash. There were numerous instances where the Mahajans and local merchants were reported to have discounted these Defence Savings Stamps at a heavy discount from the cultivators.

Despite repeated appeals from all quarters, Government did not pay heed to the words of the industrialists. It was enforced as a measure in furtherance of the Government's anti-inflationary drive.

In the season 1944-45 also, the Governments of U.P. and Bihar ordered the continuance of the delayed payment system whereby a sum of 0-2-0 per maund was to be deducted and paid in Saving Certificates. It is difficult to understand why the sugarcane grower alone is singled out for this unfair treatment and penalised in this way. As we pointed out last year, it was calculated to produce unhealthy repurcussions on the cultivation of cane in the long run in the above two Provinces, if persisted in.

Increase in Sugar Price Only 0-13-0 per Maund from 10th November 1943

Against an increase in the price of sugarcane by 2 annas per maund from the beginning of the 1943-44 season, the manufacturers secured an

increase only of 13 annas per maund of sugar. This was due to the feeling of the Government that in the previous season the increase in price effected by Rs. 2-5-0 was much higher and therefore it should be adjusted by only a small increase in the next season in price of sugar.

Cane Cess in U. P. and Bihar in 1943-44

Contrary to the expectations of the mills, the Governments of U. P. and Bihar, while abolishing the special cess on cane, announced an increase in the cess to one anna per maund in 1943-44. Their decision rather came as a surprise as it was confidently hoped by the mills that the previous cess of 0-0-9 would be reduced by 3 pies and thus allow the mills to keep down the cost of production. The increase of cess to one anna would, it was argued, make an unnecessary addition to cost of production and reduce the already low margin of profits left to the mills.

Sugar (Temporary) Excise Duty, Ordinance

An additional temporary excise duty was levied on sugar in the 1943-44 season. The Finance Member introduced legislation in November 1943, imposing an excise duty at the rate of 0-13-0 per maund on all factory sugar produced in the previous season and yet undisposed of. Mills were asked to pay the excise duty at the source before sugar could be moved from the factory. The levy of this excise duty on last season's sugar lying with the mills denied the mill-owners this extra windfall, which strictly speaking, was not due to them, and put in some more money in the coffers of the Government of India.

Cane Prices in Bihar and U. P. for 1944-45 *Season*

For the current year, the representatives of the Bihar Control Board strongly insisted on an increase in the price of cane as the province was turning gradually to the growth of cereals in preference to sugarcane as evidenced by the fall in the acreage of the cane-crop. The production of sugar in Bihar in the season 1943-44 was also not encouraging. In view of these things, the minimum price of cane was increased to 0-14-0 per maund for the season 1944-45. With a view, however, to check inflation the Government decided to continue the deduction for payment in Defence Savings Certificates the sum of 0-2-0 per maund and pay to the grower in cash only 0-12-0.

The U. P. Government, with a view to encourage sugarcane growth and pass on the benefit to the cultivator, also increased the minimum prices of sugarcane to 0-14-0 per maund and ordered deductions as follows:

(*a*) In case of cane purchased in all divisions of the Province except Gorakhpur division, Aira Factory, Ratna Sugar Mills, and Gokulnagar Sugar Co., Ltd., Kichha, the deduction is to be 3 annas per maund.

(*b*) In case of cane purchased in Gorakhpur division, Ratna Sugar Mills, Shahganj and Aira Factory, deduction is at the rate of 2 annas per maund.

(*c*) In case of cane purchased by Gokulnagar Sugar Mills, Kichha, the deduction is to be 1 anna per maund.

In fixing the minimum price for sugarcane at 0-14-0 per maund in the whole of the U. P., an exception was made in the case of the Gokulnagar Factory at Kichha where the price was placed at 0-12-0 per maund.

Cane Cess in U. P. and Bihar in 1944-45 Season

The Governments of U. P. and Bihar at the commencement of the season 1944-45 fixed the cane cess at the rate of 0-1-0 per maund as before. But later on the Bihar Government suspended the cess with effect from 16th December 1944. In U. P. the cane cess continued to be collected despite the appeal of the Indian Sugar Mills Association for immediate abolition.

Increase in Cane Price in Bihar to 0-15-0 per Maund

Towards the end of November 1944, when the cane crushing season started in Bihar, a deputation of the industrialists waited on H. E. the Governor of Bihar and represented the difficulties of mills in procuring cane in adequate quantities and urged for an increase in the minimum price for cane. The Governor gave a sympathetic hearing to the deputation and promised to examine the matter. As a result the price of cane was raised to 0-15-0 per maund with effect from 16-12-1944 and the cane cess at the rate of 0-1-0 per maund was suspended in Bihar from that date.

Sugar Prices for the Season 1944-45

In October 1944, the Sugar Controller for India after consulting his Advisory Committee announced an increase of Rs. 1-7-0 in the sugar price, thereby fixing the price of sugar of the standard quality (D-24) at Rs. 16-4-0 per maund. The increase in the price of sugar was necessitated by the increase in the price of sugarcane by 0-2-0 per maund both in U. P. and Bihar.

Abolition of the Compulsory Deduction from Cane Price in 1945

The Governments of U. P. and Bihar abolished the compulsory deduction of 0-2-0 per maund in the cash price paid to the growers with effect from 25th January 1945. This was done in response to public demand and with a view to encourage the growth of sugarcane for the 1945-46 season. This measure, although belated and long overdue, is a welcome one in so far as it goes to allay the fears of the sugarcane grower that he has been unduly penalised for no fault of his. The cultivator, who looks to greater monetary reward for his crop, can only be induced to grow sugarcane if he gets a higher return thereby.

Although the compulsory deduction and investment in the Defence Savings Certificates may help the savings programme of the Government, it cannot be regarded as a real saving as the cultivator even in the period of high prices is not above want. The low standard of living of the agriculturist in India is well-known and so it is difficult to imagine savings from him when the prices of all consumers' goods are soaring up due to inflation. Further the sacrifice involved in forcing small savings upon people who have no means to save is so great that it will not be worth the trouble. That the sugarcane grower (leaving growers of all other crops) should be penalised in this way does not augur well for the future of the industry, and certainly defeats the objective of maximisation of sugar production in

India. However, even the belated abolition of such compulsory savings is to be welcomed as it encourages the growth of sugarcane cultivation and removes the suspicions of the growers in this respect, for the next season.

Forecast of Production of Sugar for the Current 1944-45 *Season*

The current season of 1944-45 will prove to be one of comparatively low production for sugar. The final forecast of all-India sugarcane crop published by the Director-General of Commercial Intelligence and Statistics, Calcutta gives the acreage figures at 3,997,000 as against 4,113,000 acres planted in the previous season of 1943-44. The decrease in acreage amounts to 116,000 acres or roughly 3.4 per cent over the previous season. The estimated production of factory sugar in India for the year 1944-45 is expected to reach 9,85,100 tons against the actual output of 12.16 lakh tons in the 1943-44 season. The big drop in production amounting to over 2 lakh tons is attributed to decrease of acreage under cane in U. P., Bihar, Bengal and the Indian States. Both in U. P. and Bihar the crushing season opened rather late and closed early on account of shortage of sugarcane. In Madras a slight increase in output is expected as cane-crushing was prolonged upto May 1945.

Working of the Mills and Duration of the Crushing Season in 1944-45

In the season 1944-45, only about 142 cane factories were estimated to be working compared with 151 in the previous season. In U. P. and Bihar the season began so late as the first week of December and ended in middle of April with a large number of factories while only a small number continued beyond that period. In U. P. the average number of working days of factories for the whole season was 97 against 123 in the previous season. In Bihar the average number of working days of factories reached 79 and for the other provinces 107 as against 95 and 111 respectively in the last season for the two areas. The average number of working days for the whole of India for the two areas. The average number of working days for the whole of India was estimated to be 136 as against 151 in the year 1943-44. Thus there is a decrease in the average number of working days of mills in the current season compared with last year.

Moderate Production of Sugar in the Season 1944-45

Because of the short duration of the crushing season and acute difficulty in getting sugarcane by mills, the current season will prove for the Indian sugar industry as one of moderate output. As against the high production of last year the current estimated output may be low but it does not fall too much below the average for the reason that some of the mills towards the close of the season are reported to be making best efforts to crush to the full capacity to avoid sugar shortage. In spite of the fact that the growers in U. P. and Bihar were given two annas more by way of minimum cane price and the latter was fixed as high as 14 annas, factories have not been able to obtain a satisfactory crush due to the shortage of cane supplies.

The fall in duration of working days in the season in both U. P. and Bihar has been considerable and increased costs of production involved in a short season will bring down the margin of profits of sugar mills still lower. The reasons for the disappointing crush of the season are not

difficult to seek. Firstly, the cane acreage has itself shrunk in the two major provinces and there cannot be any doubt that this has been brought about in a large measure by the invidious distinction in the matter of compulsory savings of 2 annas between growers of cane and other food crops. As we pointed out above repeatedly in our previous *Annuals*, the deductions of 2 annas per maund in the price of cane created a bad type of psychology and that was responsible for weaning away the growers from cane in favour of other profitable food crops. That the sugar industry should be penalised in this way is regrettable as it has resulted in shrunken acreage of cane. Although this compulsory deduction was subsequently abolished in January 1945, as the season's sowing of cane crop was finished, there would hardly be any appreciable effect on the cane crop of 1945-46. The adverse effects of the levy in the two previous seasons was felt in the cane crop and crush of the season 1944-45. The second reason for the unsatisfactory crush is the closing down of numerous cane purchase centres beyond 25 miles and under 10 miles brought about by the shortage of wagons for cane transport. This restriction operated to the detriment of the mills. According to the Cane Commissioner of U. P. more than 80,00,000 maunds of cane should be deemed lost to the factories on account of this fact alone. The factories which depended upon rail-borne cane could not switch on easily to other means of transport for the simple reason that petrol and tyres were equally difficult to get as they have been rationed. The bottleneck of transport also contributed its share to the low output. Lastly, the *Gur* Control Order at the beginning of the season did not effectively operate and this was partly responsible for the low crush in factories in the *gur*-making tracts. At the commencement of the season, the release of large quantities of *gur* for export, which was obviously made for fear lest *gur* should accumulate and bring about the repetition of the previous season's crisis—had the effect of drawing away a lot of cane for *gur* making.

Hence, total production of factory sugar for the 1944-45 season is expected to be only 9,85,100 tons according to the estimates of the Director of Imperial Sugar Technology, Cawnpore. The average percentage of recovery of sugar from cane for the whole of India is estimated to come to 10.31 per cent as against 10.02 in the previous season, showing a slight increase. On the whole, though not one of high production, the season is expected to close with fairly moderate sugar stocks. With proper distribution arrangements, we hope, there may not be any insurmountable difficulty in maintaining the level of previous years' quotas of consumption in the country. No drastic cuts are required to be enforced by the Government in the making of provincial quotas of consumption for the current year and the public need an assurance not to get alarmed on this account. The Sugar Controller and the Government of India will be ill-advised if, contrary to the public opinion, they lower the quotas of consumption for the provinces in the current year on the ground of short-fed in production of sugar, particularly because, according to our expectation, the 1945-46 season will be one of considerably larger production of sugar.

Brighter Prospects for 1945-46 *Season*

In view of the anticipated low production of the current season and the shortage of energy foods in the world, the attention of the industry and the Government has already been drawn to the need for putting the utmost efforts to increase production of sugar in India. The resounding

victory achieved by the Allied Powers in Europe in May, 1945, which is a matter for profound gratification for all, has brought with it an added responsibility of feeding the populations of the conquered and freed countries. The Hot Springs Food Conference of the United Nations which met two years ago in April 1943, had envisaged world shortage of energy foods like sugar, potatoes and cereals and urged the need for concentrated and increased production of them in every country. In view of its rich content of carbo-hydrates, the consumption of sugar will certainly increase in the near future in many sugar-famined countries, now that war is over in Europe. The Far East sugar producing countries, even though freed from enemy yoke, cannot, all at once, supply the needs of various countries for sugar. *The war against Japan is still to be conducted vigorously from India as* main supply base for some time to come. The minimum needs of Burma recently freed from enemy occupation must be met from the Indian sugar pool. Countries like Ceylon, Persia, etc. which are near India, offer excellent scope for export of sugar. The internal consumption which has been kept under check partly by rationing will also come into full play soon. Till the war against Japan is finally closed there will be equally keen demand for sugar on Defence account. So these factors point to the need for maximum production of sugar by all-out efforts in the next season. Even an output exceeding 15 lakh tons a year can easily be absorbed by all the multiple demand sources. We trust that the industry will make efforts in the coming season of 1945-46 to produce at least 13 to 14 lakh tons and establish a record production. Due to the comparative ease in the shipping position of the Allies, now that war in Europe is finished, it will not be too much to hope that facilities for increased production of sugar will be extended by permitting imports of essential machinery, spare parts, sulphur and other stores from U. K. and U. S. A. The Government should, in all fairness, grant priority in this respect for import of the minimum requirements of the mills.

Conference for Maximisation of Sugar Output

With a view to encourage production of sugarcane and the output of sugar in the next season, i.e. for 1945-46, the Government of India in the Food Department summoned a special conference of all the representatives of sugar interests on the 5th of February 1945 at New Delhi. The conference was asked to advise Government on measures for concerting maximisation of sugar production in the country. The conference adopted a number of resolutions detailing the steps to be taken for the maximisation of sugar production in the country, in the immediate post-war period. The Government of India is understood to have promised to take necessary action to implement the proposals recommended by the Conference. The proposals contain suggestions for the long-term development of sugar production as well as plans for the immediate increment of output of sugar.

The main recommendations of the Conference for the maximisation of sugar are given in *Sugar Industry at a Glance*. In view of this it may be stated that the next season will have a promising future for sugar output.

Details of Working of the Season 1943-44

In the season 1943-44, 151 factories worked out of a total of 164 factories existing in India, as against 150 in 1942-43. The distribution of the factories in various provinces in the present and the previous year was slightly

different (*vide* Table in " Sugar Industry at a Glance."). Twelve factories did not operate and one has been excluded from the list since it was a small experimental factory for training students and its output inconsiderable for all practical purposes.

The number of factories working in the United Provinces was 70 against 71 in the 1942-43 season and 70 in 1941-42. The number of factories working in Bihar was unchanged at 31 in the last three seasons. In the Punjab, North-West Frontier Province and Sind the number of factories came down to 2 as against 4 in the two seasons of 1942-43 and 1941-42. 12 factories worked in Madras in 1943-44 season against 10 and 11 respectively in the last two seasons. In Bengal and Assam, due to famine conditions and other causes factories did not work well and the number was only 6 compared with 8 and 9 in the previous two seasons. Orissa had the same number of 2 factories working from the last three years. In the Indian States, due to lighter taxation and other concessions, the number of factories working recorded an increase from 15 to 18. Since the last three years there has been a gradual increase in the number of factories in the Indian States as can be seen from the figures for three seasons respectively as follows:—(*a*) 1941-42, 13; (*b*) 1942-43, 15; (*c*) 1943-44, 18.

It will be noted that there has been in operation a definite tendency in the movement of sugar mills from British India to the advantageously located Indian States due to the onerous and heavy tax levies in the wartime in British India. It is possible that unless suitable measures are taken in time there may be a migration of capital and plant from British Indian provinces to the neighbouring Indian States.

Duration of Cane-crushing and Average Number of Working Days

Owing to the absence of restrictions on cane crush and the availability of cane in adequate quantities, mills were able to crush large quantities of cane and work for a longer number of days. The operation of the *Gur* Control Order also helped the plentiful supply of cane for the factories in time. In U. P. and Bihar the season commenced a little early and lasted longer than usual enabling the mills to work longer days and contribute for the high output.

The average number of days worked by factories in United Provinces was 131 as against 112 in the previous season and in Bihar 93 against 96. " All other provinces " had an average of 110 days against 89 in 1942-43. The average for the whole of India for the season 1943-44 stood at 117 against 101 days recorded in the previous season. Thus the number of working days except in Bihar were higher in the " other provinces " while the number of working days for the whole of India showed an increase of 16 days over that of the last season.

In the United Provinces, the crushing season extended from the third week of November to the middle of May 1944 and in Bihar from the beginning of December to the middle of April. The season was, on the whole, longer than in 1942-43, though in Bihar it was shorter. In the " other provinces " the season was much longer than anticipated and mills had very good opportunity of having increased cane crush. The variety of the crop in different provinces was also responsible for the longer duration of the season.

The advantages enjoyed by certain factories in U.P. resulted in a season of 180 days, the maximun for the province. The maximum number of days worked by any factory in the U.P. in the previous season was only 154. In Bihar the maximum number of days worked by any factory was 129 against 152 in the last year. The maximum for "all other provinces" was 255 against 278 in the previous season. Excepting in Bengal and the Punjab, mills in Madras, Bombay and Indian States showed better working results. Out of a total production of 12.16 lakh tons, the U.P. alone contributed sugar to the extent of 7.27 lakh tons.

Quantities of Cane Crushed by Mills in 1943-44

The maximum number of days worked by any factory in U.P., Bihar and "all other provinces" is 180, 129 and 255 respectively; the minimum number of working days in the three divisions is 80, 9 and 5 respectively; and the average number of days worked by factories in the above places is 131, 93 and 110. The all-India total minimum, maximum and average number of working days obtained by mills are 5, 255 and 117 respectively.

The maximum quantity of cane crushed by any factory in U.P. is 286,800 tons as against 203,700 in the season 1942-43; the minimum 3,700 tons against 5,700 in the previous year and the average quantity 104,700 tons against 84,900 tons.

In Bihar the maximum is 130,000 tons against 141,500; the minimum 1,300 tons against 10,300 and the average 65,100 tons against 70,100. Bihar has recorded smaller and poorer crush in the season 1943-44 than in the previous year.

In "all other provinces" the figures of cane crush for maximum, minimum and average are 203,000,300 and 55,700 respectively compared with 161,500,270 and 46,200 in the season 1942-43.

The maximum quantity of cane crushed for any factory per day in the U.P. in the season 1943-44 is 1,903 as against 1,920 tons, the minimum 46 against 65 and the average 803 against 760 tons, in the previous season.

The figures for Bihar for any factory per day are: maximum 1,080 against 1,920; minimum 107 against 100 and the average 720 against 730 tons.

In "all other provinces" the maximum, minimum and average number of cane crushed in tons for any factory per day are 1,903, 14 and 760 respectively as against 1,170, 18 and 520, in the previous year.

For the whole of India the maximum, minimum and average quantity of cane crushed by mills per day are 1,903, 14 and 708 in the season 1943-44 as against 1,920, 18 and 690 in the previous season. (*Vide* the relevant tables in *Sugar Industry at a Glance.*)

Quantity of Sugar Produced in 1942-43 and 1943-44 Seasons

The production of sugar directly from cane in modern factories in India amounted to 12,16,400 tons in the season 1943-44 against 10,70,700 tons in 1942-43 and 7,78,100 in the season 1941-42. There is a gradual increase in production compared with the last two seasons. The production in 1943-44 is 13.61 per cent higher than in 1942-43. As pointed out before, the higher

production is mostly due to the bigger output in the U.P. There has been a record output in U.P. for the season and this has compensated the loss and small reduction in Bihar and Bengal.

Details of Cane Crushed and Sugar Produced in Different Provinces

In U.P. the number of factories working in the year 1943-44 was 70 against 71 in the last year. The quantity of cane crushed was 7,332,400 tons against 6,028,000 tons while sugar produced was 727,100 tons against 612,500 tons. Molasses produced in the province were 262,600 tons as against 212,300 last year.

In Bihar, the total quantity of cane crushed by 31 factories was 2,018,400 tons against 2,171,900 tons in the previous season with the number of factories remaining unaltered. The quantity of sugar and molasses produced were 212,400 and 68,300 respectively in the 1943-44 season as against 237,400 and 74,400 tons in the last season.

In Bombay, 10 factories crushed cane to the extent of 739,700 tons and produced 81,200 tons of sugar and 28,700 tons of molasses. In the previous season only 9 factories worked and crushed cane of 732,000 tons; produced 77,900 tons of sugar and 28,600 tons of molasses. In Madras the number of factories which worked were 12 against 10 in the previous year and the figures of cane crushed, sugar and molasses produced were 420,400 tons, 39,200 and 17,900 and 291,000 tons 27,500 and 11,300 tons respectively in the two years. In Punjab, Sind and N.W.F. the quantity of cane crushed by the two mills was 174,200 against 129,600 tons crushed by 4 mills in the last season. The sugar produced and molasses obtained were 17,400 and 5,500 tons as against 11,800 and 4,500 tons in the 1942-43 season. In Bengal, six factories worked and the cane crushed, sugar and molasses produced were 175,900, 13,600 and 8,200 tons respectively. The results of the last year were 199,600, 16,500 and 6,600 when the number of factories which worked was 8. In Orissa the number of factories remained unchanged at 2. The quantity of cane crushed, sugar produced and molasses obtained were 17,600, 1,700 and 800 tons as against 21,100, 2,100 and 900 respectively in the past year. In the Indian States the number of factories were 18 as against 15 in the previous season. Cane crushed was 1,259,200 tons against 845,300 in the year 1942-43; sugar produced was 123,800 against 85,000 tons and molasses obtained was 46,700 tons against 30,500 tons.

Percentage of Recoveries of Sugar from Cane

The recoveries of sugar from cane, except in Bihar and Bengal, were on the whole satisfactory. Factories were able to get a good crush and fair recovery in the whole of U.P., while in "the other provinces" the recovery percentages were moderately satisfactory. In spite of the shortage of sulphur, chemicals and lime supplies, it is satisfactory to note that there has been a general improvement from the point of view of technical efficiency in methods of production by mills: It is probable that a regular supply of chemicals and other stores coupled with improved varieties of cane submitted to mills, will enable the factories to show still better recovery percentages. The trend of general increase in recovery percentages during the last 10 years gives hope for increased recovery percentages.

The highest recovery for the season was 12.84 per cent against 13.35 per cent in the preceding season. The average extraction for the whole

country was 10.02 as against 10.28 in the previous season. The recoveries decreased by 0.24 per cent in the United Provinces, 0.40 per cent in Bihar and 0.01 per cent in the rest of India. The decrease was probably due to the longer duration of the season.

The maximum recovery for any factory in the United Provinces was 11.79 against 11.72 in the season 1942-43 and the minimum 6.0 against 7.83. There was a decrease in the United Provinces on the average compared with last year. The average recoveries for the whole of U. P. were 9.92 against 10.16, thus showing a decrease of 0.24 per cent. In Bihar the maximum recovery for any factory was 11.62 against 11.92 in the previous season. The minimum percentages of recovery for Bihar were 2.27 against 9.11, thereby showing the adverse effects suffered by a number of mills during the 1943-44 compared with last year. The average percentages were 10.53 against 10.93. The loss in recovery for the whole of Bihar was 0.40 per cent.

In "all other provinces", the maximum rate of recovery was 12.84 per cent and the minimum 2.85 per cent and the average 9.94 per cent. The respective figures for the 1942-43 season were 13.35, 5.00 and 10.28 per cent.

Whatever be the minimum percentages of recovery in the individual provinces for any factory, the season 1943-44 gave good recoveries on the average for the whole of India. Compared with the average recovery of last year which was 10.28, the recovery for the 1943-44 season which stood at 10.02 was only a little less and the decrease could not be regarded as considerable.

Sugar Production Forecast in 1944-45 Season

Some details about the workings of the current season of 1944-45 till the end of May 1945 have already been referred to above in connection with the sugar prices and their effect on sugarcane cultivation. The second Memorandum on the production of sugar directly from cane in modern factories in India during the season 1944-45 by the Director, Imperial Institute of Sugar Technology, Cawnpore, estimates the total production at 9,85,100 tons for the current season as against 12,16,400 tons last year. This means that the production of sugar directly by mills will be less by nearly 2.31 lakh of tons. The reasons for the smaller production are many and among them the most important is the smaller acreage in U. P. and Bihar due to the penalization of the sugarcane grower by the deduction of 0-2-0 per maund from cane price for investment in Savings Certificates. Although the deduction was abolished late in January 1945 it did not exercise any salutary effects except that more cane was taken to mills in preference to Gur-making since the abolition of deduction. The condition of the crop except in Bihar and Bengal was reported to be generally good. Abnormal labour costs and shortages of various kinds also influenced production of sugar by mills somewhat adversely this year. The rather loose working of *Gur* Control Order in the beginning of the current season was also responsible in drawing cane from factories to gur-making to certain extent and partly accounted for the lower factory production.

The number of factories reported to be working was only 142 against 151 in the season 1943-44 and the distribution except in Bengal was almost the same. In U. P., Bihar, the Punjab, Sind and N.-W. F. the number of

factories was 70, 68, 31, 29 and 2 respectively this year. In Bengal there was a reduction to 4 this year 5 from 6 in the last season. In Bombay, Madras and Indian States, the figures were the same as last year, viz. 12, 10 and 18 respectively. In Orissa there was only 1 mill working against 2 last year.

Many factories in U. P. and Bihar closed by the end of April 1945, and the rest by the end of May 1945. On the whole the season was shorter than the previous year and the quantity of cane crushed by mills was estimated to be about 9,533,400 tons as against the actual crush of 12,137,800 tons recorded during the last season. The recovery percentage which stood at 10.31, showed slight increase compared with the 1943-44 season. Thus the results point to one fact, viz. lower production of factory sugar for the current season.

But this need not alarm anyone as the coming season is likely to be one wherein every effort for maximum production will be made. The war has happily ended this year and export markets have been opened. There seems to be a wider scope of demand for Indian sugar and the authorities will do well to keep in mind this important fact and leave no stone unturned to assist the industry in every way to increase output of white sugar. There is reason to believe that the Government is also serious about it, as the convening of a special Conference for Maximisation of Sugar output in February 1945, referred to in the earlier portion "At a glance" will show.

Sulphur Supplies and Sugar Production

The problem of securing adequate supplies of sulphur has naturally been causing considerable anxiety to the sugar mills for the last three or more years. The acute shipping situation has resulted in the curtailment of sulphur supplies and factories were advised to make as economical an use of stores and chemicals as possible, consistent with the maintenance of proper efficiency at the plants. For this purpose factories were asked to seek the help of the chemical experts of the Imperial Institute of Sugar Technology to enable them to economise the use of sulphur at the mills. Mills were also asked to state their minimum requirements of sulphur long before the season, so as to make it available to them in time.

The working of the last two years has, however, proved that it is impossible to maintain efficiency with a frugal or miserly policy in regard to supply of stores and sulphur. It was believed that the problem of sulphur supplies had been satisfactorily solved and that considerable ore reserves had been found in Baluchistan. But the lack of proper arrangements at the mills for refining the crude Baluchistan ore and the low percentage content of sulphur in the ore have belied hopes.

The supplies of sulphur in the crude form naturally gave rise to considerable difficulties to sugar factories. Sulphur had to be refined and very few factories had facilities for using sulphur ore direct by refining it at the mill itself. Equipment at some of the factories had to be altered but even then there was no satisfaction. The main task of refining and supplying sulphur from Baluchistan ore was entrusted to Messrs Sepulchre & Co., who maintained a refining plant at Delhi. But the difficulties of the factories in getting adequate quantities of pure sulphur persisted during 1943-44 season.

Towards the end of 1943, the Food Department of the Government advised factories to reduce consumption of sulphur from 0.04 per cent to 0.035 per cent, thus affecting economy in its use. If factories found it difficult to reduce their consumption to this level they were advised to seek the assistance of the Director, Imperial Institute of Sugar Technology, Cawnpore.

With the reduction in the allotment of quantities of sulphur, factories were naturally anxious to make sure that the ore supplied to them was of a certain assured sulphur content, as it was found that there had been a reduction in the recovery from 25 per cent to 15 per cent. This naturally placed many factories at a disadvantage. The difficulties in getting sufficient quantities of ore, the uncertain nature of the sulphur content and the deterioration in the quality of sugar have led to many representations by sugar factories that refined sulphur should be imported from America and Sicily for the next season, i.e. for 1945-46. Since the war in Europe has come to an end this year in May 1945, it is very likely that the Government of India will make every effort to import sulphur in adequate quantities and of good quality from Sicily and thus relieve the anxiety of the factories in the matter of sulphur supplies. Let us hope that the Government will attend to this matter in time and make adequate sulphur supplies available for mills for the coming season.

Lime and Fuel Supplies to Sugar Mills

Lime is used as a chemical in juice clarification in sugar factories. The consumption of quick lime in clarification using sulphitation works out to about five pounds of lime per ton of cane crushed. Taking 90,00,000 tons as the average amount of cane crushed in sulphitation factories, the approximate total amount of lime required comes to about 20,000 tons. The value of this, if it were cent per cent pure, at the rate of Rs. 25 per ton, would work out to about Rs. 5 lakhs.

During the season 1943-44 the sugar factories in U. P., Bihar, Bengal and Madras experienced considerable difficulties in securing their requirements of limestone for producing sugar. The quality of limestone is very important and as such limestone has got to be transported over distances. Efforts were made to get limestone from Jubbulpore and Katni areas in Central India and from Rajputana. Transport of lime became a difficult problem and frequently mills found it impossible to secure the necessary priorities. After numerous representations the Chief Controller of Railway Priorities, New Delhi, promised to look into the matter and make movement of lime to sugar mills more orderly and satisfactory. The request of the Indian Sugar Mills Association for putting limestone in the list of Class I priority, although turned down, produced beneficial reaction and the Regional Controllers of Railway Priorities were asked to grant temporary special assistance in case of essential movements to individual sugar mills.

The fire-wood and fuel position also became acute towards the end of the season 1942-43. Mills experienced difficulties of various kinds in procuring minimum requirements of fire-wood. Although bagasse is being used partly as fire-wood, many mills could not get on without fuel-wood. The prices of wood which was Rs. 18 to Rs. 24 per ton before the war, gradually went up as high as Rs. 75 to Rs. 80 per ton in U. P. Towards the end of the season 1942-43 mills in U. P. made an appeal to the Govern-

ment expressing concern over the fuel-wood position. The U. P. Government made some concessions to the mills for procuring fire-wood from forest reserved areas near Dehra Dun by a regulated process at fair prices. This resulted in some relief on account of fuel.

In 1943 and 1944 the coal and fuel position in all provinces became generally one of acute shortage and the Government of India had to intervene in the matter of fuel-wood for sugar mills. The Food Department of Government of India made allotments to the various mills after ascertaining their requirements for the off-season and the coming season. The allotment system is now continuing as the position has not yet improved so far. For the season 1945-46, the Government of India announced that pending supply of full details as regards the requirements of the mills and the final allotment of fuel thereto, a quota of 50 tons of fire-wood to each sugar factory would be made to cover the immediate requirements. Arrangement has also been made for an adequate supply of coal to factories for 1944-45.

Working of the Sugar Control Order in 1943-44

The working of the Sugar Control Order on the whole had been satisfactory in the above season although there were complaints voiced here and there by trade associations and individuals. The elimination of mistakes and cumbersome official red-tape methods facilitated generally the working and enforcement of orders although excessive zeal has been shown by some local officials in the enforcement of regulations. Thanks to the sympathetic and ready response of the Sugar Controller of India, many complaints were redressed on proper representation of the trade through the two associations. Mr. N. C. Mehta, the first Sugar Controller, (on whose ability and eagerness to help the industry forward through thick and thin, we had the occasion to comment on in previous *Annuals*) was succeeded in 1944 by Mr. Vishnu Sahay, who possesses plenty of grit and first-hand knowledge of sugar conditions by his work in U. P., as Cane Commissioner for several years.

The Sugar and Sugar Products Control Order, 1943 came into force and it was in many ways very comprehensive. Control over all aspects of the sugar industry was established and a process of centralisation and co-ordination between the various controlling authorities was evolved in course of time. Prices of sugar and sugarcane were also fixed and announced earlier to enable the industry to put forth its best effort. The problem of disorganised transport which was the chief complaint in 1942-43 was solved to some extent and wagons were allotted with greater regularity to the sugar mills. The transport of sugar from mills to consuming centres was also made easier and quicker as the Sugar Controller assumed full responsibility for it. Likewise in distribution also quotas were fixed for each area and transport was arranged fairly satisfactory. Above all, the working of the Gur Control Order and its enforcement in U. P. contributed largely to the success of the season's sugar production.

Alluding to the working of controls during 1943-44 season, Mr. Lalchand Hirachand, retiring president of the Indian Sugar Mills Association in his speech on 16th September 1944, observed as follows:—

"The drive on the 'Indian Sugar Front' has been a success. The production of factory sugar which in the year 1942-43 was only 10.7 lakhs

tons had gone upto 12¼ lakhs tons in the year 1943-44. To achieve this the Sugar Controller was armed with the additional 'V' weapon, namely, the Gur Control Order. The increased production of sugar in the year 1943-44 has roused in me a mixed feeling of joy and unhappiness. I feel happy, because the actual production has gone up to such a high figure and has created a new record at a time when sugar is in great demand. I feel unhappy, because the methods that were employed for obtaining higher production were like all 'V' weapons very destructive in their nature. Here I refer, particularly, to the enforcement of the Gur Control Order under which the movement and transport of gur were strictly controlled in U. P. which is the biggest producer of gur."

The effective control of gur and the check in the diversion of sugarcane for the manufacture of gur were achieved by the Gur Control Order. Towards the end of the season, surplus gur from U. P. and Bihar was also brought under quota and allotment system by the Gur Controller and transport for gur was provided accordingly on licenses issued for export. The inter-district ban on transport of gur was also withdrawn.

Sugar Prices increased in 1944

The decision of the Government of India on sugar prices for the 1944-45 season were announced by a notification on 21st October 1944 by the Sugar Controller for India under the Sugar and Sugar Products Control Order, 1943. The press note issued on the subject pointed out that the Government of India increased the price of white sugar by Rs. 1-7-0 and the khandsari price by Re. 1 per maund for the season 1944-45. At the same time an ordinance was promulgated to raise the temporary excise duty on sugar from 0-13-0 to Rs. 1-7-0 on all stocks of sugar held by the factories and dealers on that date, and thus the Government obtained revenue, which would have unjustifiably gone to the holders of old season's sugar.

The increase in the ex-factory price of sugar was intended to enable the Provincial Governments to fix a higher minimum cane price during the ensuing season. Whatever increase in the price of sugar was made for the season was taken away by the higher cane prices in the U. P. and Bihar. The Provincial Governments of Bihar and U. P., as mentioned above, increased the prices of sugarcane by two annas from As. 12 to As. 14 per maund.

Comments on Sugar and Sugarcane Prices for 1944-45

The increase in sugar prices was practically offset by the increase in cane prices by 0-2-0 per maund. That apart, the prices of sugar and sugarcane announced by the Government of India and the Provincial Governments did not satisfy either the trade or the growers. Both were disappointed at the low prices and meagre margin of profits left to them.

Commenting on the increase of Rs. 1-7-0 per maund in sugar, Lala Gurusharan Lal, President of Indian Sugar Mills Association, said that the increase of Rs. 1-7-0 per maund was far below the expectation of the industry which had asked for an increase of Rs. 1-13-0 per maund. He complained that the present increase was hardly sufficient to cover the increase of 0-2-0 per maund in the cane prices and that of three pies in the co-operative societies commission in U. P. and Bihar, increased labour charges, higher prices of coal and other mill stores and the general increase

in the cost of production owing to short season. He opined that unless the Government granted a further increase of 0-6-0 in the sugar prices most of the mills would be put to serious losses during the ensuing season. He also added that there was no justification for the continuance of the cess of 0-1-0 per maund on sugarcane in view of the fact that the Central Excise Loan was fully paid-up.

Commenting on the increase in sugar prices, Mr. M. P. Gandhi, Editor of the *Indian Sugar Industry Annual* in a statement to the press, said as follows :—

"The present increase of Rs. 1-7-0 a maund in the price of sugar will warrant an increase of only two annas a maund in the price of cane (roughly 10 maunds on cane being required for producing one maund of sugar), and the balance of three annas has been allowed to the industry to offset the increased manufacturing charges, consequent on increase in prices of coal. sulphur and various other ingredients. The industry should feel thankful for the small mercy.

"But a price of 0-14-0 annas per maund of cane, as against 0-12-0 last season in the U. P. and Bihar would neither be an adequate compensation to the cultivator, whose cost of living has increased considerably, nor afford him the incentive for keeping to the cane crop as against alternative food crops. The cultivators' interests have, therefore, not been given a fair consideration, and, consequently, also the larger interests of the industry.

"The growers representatives also were disappointed at the low prices and insisted on the abolition of compulsory deductions on sugarcane. Even with the alteration made in Bihar in increasing the minimum price to 0-15-0 per maund without any deduction and the complete abolition of deductions in U. P., there is little reason to think that the minimum prices are fair and remunerative to cultivators of sugarcane. In the larger interests of the industry, we hope, that this aspect of minimum sugarcane prices will receive the attention of the Government and the industry at least for the coming season of 1945-46."

Temporary Excise Duty Ordinance, 1944

The Sugar (Temporary Excise Duty) Ordinance, 1944, to impose a temporary duty of excise on sugar produced in British India at the rate of Rs. 1-7-0 per maund on factory sugar and Re. 1 on Khandsari sugar, was published in the *Gazette of India* Extraordinary dated 21st October 1944.

Section 3 of the Ordinance provided for the levy of an excise duty of Rs. 1-7-0 on all factory made sugar and Re. 1 on Khandsari sugar per maund. Section 4 of the Ordinance laid down that every person owning or possessing sugar liable to the duty shall submit to the Assessing Officer a full account in writing within seven days of all sugar in his ownership or possession together with full details. The object of the Ordinance was to collect excise duty on the old stocks held by mills or wholesale dealers at the increased rate of Rs. 1-7-0 per maund which was also the increased price of sugar for the new season. It was a counter-measure not to allow mills or dealers to profit unduly by this increase. The amount went into Government coffers. The Ordinance came into effect immediately.

Schedule of Sugar Prices for 1944-45

The schedule of sugar prices, ex-factory controlled rates announced by the Sugar Controller for India, on 21st October 1944, has been given in the *Sugar Industry at a Glance.* There is a uniform rise of Rs. 1-7-0 per maund in the prices of factory sugar compared with the last season. The various ex-factory prices have been fixed on the basis of the Sugar Standards prescribed by the Bureau of Sugar Standards for the different grades. Sugar of D. 24 quality is reckoned as the standard grade and other grades are priced according to the difference in quality from D. 24. Sugar of D. 24 quality is fixed at Rs. 16-4-0 per maund in the 1944-45 season.

Bihar and U.P. Control Acts Extended upto 1947

The life of the Bihar and U.P. Control Acts was extended for a further period of three years. The Governor gave his assent to the U.P. Sugar Factories Control (Amendment) Act, 1944 which, *inter alia,* provided for the continuation of the Sugar Control Act of 1938 till the end of June 1947. The two Governments also set up Sugarcane Varieties Advisory Committees to continue the work of improving the quality of sugarcane crop sown. The question of cane development is very important in India because of the low recovery percentages and the higher costs of production. The setting up of the Sugarcane Varieties Advisory Committees in U.P. and Bihar for increasing the yield of cane per acre is a step in the right direction.

Technical Committee Set Up in U.P. to Help Factories

By an amendment to the United Provinces Sugar Factories Control Rules, 1938, the U. P. Rural Development (Cane) Department under a notification dated 28th November 1944, announced the setting up of a Technical Committee to help and assist the factories with advice on all technical problems. The Technical Committee is to consist of six members of which the Director, Imperial Institute of Sugar Technology, Cawnpore, and the Cane Commissioner, U.P. shall be *ex-officio* members of the Committee. The remaining four members are to be nominated by the Governor and shall include at least three representatives of the Indian Sugar Syndicate Ltd. The Technical Inspector appointed under Rule 51A, shall act as the Secretary of the Committee and the Chairman of the Committee is to be nominated by the Government.

The main functions of the Committee were defined by Section (6) which says:—

(6) The functions of the Committee shall be to advise the Provincial Government with regard to—

(*a*) the establishment of new sugar factories in the Province;
(*b*) the additions or alterations in the existing plants of sugar factories in the province;
(*c*) determination of the crushing capacities of the existing sugar factories in the province;
(*d*) additions or alterations carried out by a factory in contravention of the provisions of Section 9 of the Act; and
(*e*) other technical and incidental matters connected with these functions as may, from time to time, be referred to it by the Sugar Commissioner or the Provincial Government.

Rules framed under the Act were to govern the procedure for meetings of the Technical Committee set up above. The establishment of the Technical Committee is a welcome sign of the interest that the U.P. Government has been envincing in conserving and developing the sugar industry on right lines in that province. Technical advice on various matters is required by the mills and also the authorities for the purposes of post-war planning. How far this higher aim can be achieved by the Technical Committee set up in U.P. will lie in the womb of future but as a measure forward it is a step in the right direction. It will not be too much to hope that Bihar will also follow in the footsteps of U.P. in this matter.

Extensions to Sugar Factory Plants in U. P.

The U.P. Government issued a Press Note on this subject on 11th July 1945: "The U.P. Government have decided to permit the existing sugar factories in the province which have at present a crushing capacity of less than 800 tons per day to raise their crushing capacity to that level. These factories will also be allowed an increase in rollers subject to a maximum in the mill of 17 with a view to ensuring more efficiency and economy. The sugar factories availing of these facilities will have to fulfil two conditions. They have to ensure that the required quantity of cane is available within the existing home zones of respective sugar factories or can be produced in these zones by intensifying the cultivation and that the existing plants are so balanced that they can be extended to the level of an economic unit of 800 tons per day".

From the point of view of increase of efficiency, this step is, doubtless, commendable. It is, however, a moot point whether it would be desirable to develop further sugar-producing capacity in U.P. (and Bihar), or to let other areas which are today backward in this respect, develop their production, out of regard for a well-regulated dispersal of industry over all Provinces, where the industry is capable of establishment. We have consistently suggested that further development of the industry, at the present stage, and under the present circumstances, should be planned principally outside U.P. and Bihar which are greatly congested. We recommend an All-India Planning in the matter of establishment of further capacity of production of sugar.

Sugarcane Survey for India Completed in 1945

The need for a comprehensive survey of Indian Sugar Industry is never more urgent than to-day when the post-war plans for every industry are now on the anvil. Sir T. S. Venkataraman, formerly of the Imperial Sugarcane Research Station, Coimbatore, was conducting a comprehensive survey on behalf of the Imperial Council of Agricultural Research but had to give up the work owing to ill-health. The work was undertaken by Mr. N. L. Dutt, Director of Imperial Sugarcane Research Station, Coimbatore. It is reported that the investigation has been finished and that Mr. N. L. Dutt has submitted his Report to the Government of India, detailing the various measures to be taken for improving cultivation of sugarcane in India. We hope that the Report will be published before long and that Government will make every endeavour to implement its main recommendations at an early date.

Transport Difficulties in U.P. and Bihar

Although there was strain on transport facilities by rail and shortage of wagons, on the whole the season 1943-44 did not experience difficulties so far as the sugar transport is concerned. Loading and unloading of cane was quick and sugar factories were able to transport cane to factories with much delay.

But the 1944-45 season for cane crushing by mills was one of considerable difficulties for transport. At the beginning of the season factories on the O. & T. Railway were informed that there would be considerable restrictions in the allotment of wagons for cane transport. Wagon supplies were restricted to one-third and loading of cane by rail from stations beyond 25 miles and within a radius of 10 miles was prohibited. This caused considerable difficulties for factories. The difficulty on account of wagons was evident from the fact that factories were asked to finish loading and unloading within 6 hours compared with 9 hours in the previous year and 24 hours before. Longer detention by factories was threatened with demurrage. The representations of the factories to extend the hours to nine did not meet with success except that promise was given to look into individual cases of reasonable delay. Thus transport presented great difficulties to the mills in 1944-45 season and many factories in U. P. and Bihar lost continuous crush. For lack of transport, cane was left in the fields and constituted a loss for more sugar production. As factories were for long dependent upon rail-borne cane it became difficult to switch off from rail transport to other means of transport. Lack of proper roads and the paucity of tyres and petrol proved as obstacles for lorry transport and other arrangements even if some mills wished to explore those sources. Thus transport problem throughout the season 1944-45 caused difficulties to mills and was responsible as a factor for low output of sugar.

It may be hoped that the authorities will try to rectify the transport deficiency in the coming season and take all precautions to provide sufficient number of wagons for the transport of cane to the mills. The invidious regulation regarding restrictions over 25 miles and within 10 miles stations must be removed and mills should be in a position to get their supplies by rail irrespective of the distance in the interests of cultivators and a larger crush.

Central Sugarcane Committee Formed in June 1944

The establishment of the Central Sugarcane Committee to promote and safeguard the interests of the future of Sugar Industry is a step in the right direction and comes none too soon as the industrialists and other sugar interests have been urging for it long since. The Government of India's Draft Resolution on the subject intimating the proposal to set up the Central Sugarcane Committee, on the lines of the Indian Central Cotton Committee and the Indian Jute Committee, was circulated among the various sugar interests in the country in December 1943 to elicit their opinions and suggestions. The text of the draft resolution is given in *Sugar Industry at a Glance* in last year's *Annual*. (See Sugar Industry *Annual* 1943.)

Under a notification dated the 6th June 1944, issued by the Government of India, Department of Education, Health and Lands, New Delhi, it was

announced that the Government of India accepted the draft resolution and the recommendation to set up the Central Sugarcane Committee to be a body corporate registered as a Society under the Registration of Societies Act, 1860. (For the text of the approved resolution of the Government see *Sugar Industry at a Glance.*)

The formation of the Central Sugarcane Committee with the Central Sugar Advisory Board will facilitate a more vigorous policy being pursued by the Government towards the industry and give it adequate attention from an all-India angle. In view of the growing importance of the Indian Sugar Industry and the need for reduction in costs of production, especially of cane, it is expected that the Central Sugarcane Committee will formulate a plan for conducting vigorous research in the growth of better varieties having larger sucrose content and giving higher yield of cane per acre as well as better recovery percentages.

Functions of the Indian Central Sugarcane Committee, 1944

The functions of the Sugarcane Committee as stated in the final Resolution of the Government of India, dated 6th June, 1944, are as follows :—

"The functions of the Indian Central Sugarcane Committee will be to undertake the improvement and development of the growing, marketing and manufacture of sugarcane and its products in India and of all matters incidental thereto. This includes items such as agricultural, technological and economic research on sugarcane, gur and sugar and their bye-products, the improvement of crop forecasting and statistics, the production, distribution and testing of improved varieties, the adoption of improved cultural practice, enquiries and recommendations relating to banking and transport facilities and transport routes, the maintenance of an Institute of Sugar Technology and other similar matters. The control over the Institute of Sugar Technology will vest in the Committee along the lines indicated in the resolution. The Committee will also advise the Central and Provincial Governments concerned on any points which may be referred to them, provided the subject matter of the reference falls within the prescribed functions of the Committee."

In order to provide a fair representation to manufacturers, growers, traders and consumers, the body was constituted of nearly 45 members. Of the total number of members, 16 were given to officials of the Central and Provincial and State Governments who were to be represented by their officers. Of the rest of seats, 10 were allotted to Sugar mills, 4 to Gur and Khandsari industry, 8 to non-official representatives of agricultural interests, 3 to the Sugar Trade, 1 to Sugar Technologists and 3 to consumers' representatives. (See *Sugar Industry at a Glance.*)

It was also proposed that the Committee would undertake the maintenance of the Imperial Institute of Sugar Technology both as a teaching and research institution and be responsible for the improvement in sugar standards. Returns under the Sugar Production Rules, the maintenance of sugar trade information services and any special work that may be required by the Central or by any Provincial Government would be directly under the control of the Director of the Imperial Institute of Sugar Techno-

logy who would be appointed by the Government of India and continue to be a Government servant.

Finances of the Central Sugarcane Committee

The Government of India will finance the Committee by placing at its disposal the entire proceeds of the Sugar Excise Fund; the amount so credited shall continue to be one anna per cwt. of white sugar produced in British India out of the excise duty levied on it. The question of increasing the amount will be considered after the war. If the amount placed in the Fund in any year falls short of the needs of the Committee, the Government of India will automatically grant a loan free of interest to cover the deficit and enable the Committee to incur expenditure upto a limit of Rs. 11.75 lakhs in the year subject to the condition that the first charge on any surplus occurring thereafter will be the repayment of this loan. The Committee will meet all the present liabilities of the Fund and take over all its assets.

Inaugural Meeting of the Central Sugarcane Committee

The inaugural session of the Indian Central Sugarcane Committee was held at New Delhi on November 29th and 30th 1944. Sir Jogendra Singh, Member-in-Charge of Lands, Education and Health Department performed the inaugural ceremony. The meeting constituted a number of sub-committees, one each to deal with Technology, Agricultural Research, a Committee of Experts, a Sugar Standards Committee and a Gur and Khandsari Committee. All these were advisory bodies to the main Committee, viz. the Finance Committee. The Finance Committee which was also constituted at the same time would be the main Executive Committee and possess all the powers of the full Committee. The headquarters of the Committee were to be at Delhi and the Vice-Chairman, Imperial Council of Agricultural Research, as mentioned in the Government's resolution, was to act as *ex-officio* President of the Committee. Lala Shankar Lal was elected as the first Vice-President. The meeting approved the Memorandum and Articles of Association for the registration of the Committee. (For the names of the members of the Central Sugarcane Committee see *Sugar Industry at a Glance*).

Sir Jogendra Singh in his speech dealt with the importance of the sugar industry in the national economy and laid stress on the duties and responsibilities of the members in the discharge of the work entailed on them. Concluding his speech, he hoped that the Committee would do its utmost in promoting the interests of sugarcane and sugar in the future by the application of science and modern research in breeding improved varieties of cane.

Comments on Composition of the Central Sugarcane Committee

On the strength and personnel of the Central Sugarcane Committee constituted by the Government, a number of criticisms were made in the press. We would only refer to a few of them here. It was pointed out that the Committee was large and unwieldy in size with a membership of 45. It was also pointed out that a smaller body would be better able to handle the practical problems and come to decisions quickly and easily. Since the main objective of the Committee was not merely to discuss and debate

but to formulate plans, it would be in the fitness of things to have a smaller body. Secondly, it was considered that official representation in the Committee was far too much and over weighted and consequently non-official quota suffered reduction. Thirdly, the invidious position of the Director of Imperial Sugar Technology, owning divided loyalty to two authorities and serving under two masters received adverse comment.

There is certainly sound argument in some of the above criticisms. For ourselves we share the view of the first two criticisms, viz. the unusually large size of the Sugarcane Committee and the small representation given to non-official sugar interests and particularly consumers of sugar and agricultural interests. We fully endorse the view that a smaller and more compact body would certainly be more congenial for work and quick decisions. In any case it would not degenerate into a debating and discursive body, as larger bodies are always likely to be. As regards the position of the Director of the Imperial Institute of Sugar Technology, which is a very key and important post for the sugar industry, we are not afraid of the argument of divided loyalty and do not consider his appointment by Government in any way injurious.

In February 1945, a second meeting of the Central Sugarcane Committee was held at Delhi. A Planning Sub-Committee to consider and make recommendations on the part which sugarcane production should play in the future economy both of the country as a whole and of the various sugarcane-growing Provinces and States was appointed under the chairmanship of Mr. H. R. Stewart, Vice-Chairman of the Imperial Council of Agricultural Research. The Sub-Committee was asked to submit its report at the next meeting of the Indian Central Sugarcane Committee. Several matters having an important bearing on the future of the sugarcane and sugar industry were discussed at the meeting. The levy of a cess on sugarcane supplied to factories in Provinces and States, where such a cess did not exist already, was strongly recommended by the Sugarcane Committee, its full proceeds to be utilized for the improvement and development of the cane and other connected purposes, including the improvements of roads leading to sugar factories. It was also resolved that the cane-growing Indian States should be asked to contribute to the funds of the Indian Central Sugarcane Committee which derived its finances at present entirely from the excise duty on sugar manufactured in British India. A technical Sub-Committee was set up to examine the present programme of work at the Imperial Institute of Sugar Technology and to make recommendations in regard to the lines along which the Institute could best serve the needs of the sugar manufacturing industry.

Estimated Production of Sugar in Season 1944-45

The working of the mills and production of sugar during the current season of 1944-45 has already been referred to above in connection with cane prices and comments thereon. The second Memorandum on the production of sugar by mills was published in the *Indian Trade Journal* in June 1945. According to the estimate of the Director of the Imperial Institute of Sugar Technology, the total output by mills will be round about 9,85,100 tons. It is

estimated by him that there will be a drop in U. P. output, while in Bihar and Indian States also there will be a decrease due to lack of cane supplies in adequate quantities.

A comparative study of the actual output during 1943-44 and the estimates for current season of 1944-45 will clearly bring out the position and prospects of sugar industry now. The comparative figures are given below :—

Province.	Cane Crushed. 1943-44	Sugar Produced. 1943-44	Cane Crushed. 1944-45.	Sugar made. 1944-45.
	(Actual results of the Season.)		(Estimates for Season.)	
	Tons.	Tons.	Tons.	Tons.
1. United Provinces	7,332,400	727,000	6,213,487	533,500
2. Bihar	2,018,400	212,400	1,607,713	170,600
3. Punjab, Sind & N. W. F. P.	174,200	17,400	168,993	12,300
4. Madras	420,400	39,200	575,231	53,300
5. Bombay	739,700	81,200	787,975	76,300
6. Bengal	175,900	13,600	184,251	12,000
7. Orissa	17,600	1,700	25,308	2,600
8. Indian States	1,259,200	123,800	575,231	124,500
Total. ...	12,137,800	1,216,400	10,138,189	985,100

Production in U. P., as can be seen from the above figures will be less by about two lakhs of tons compared with the last year's. In Bihar and Bengal and Bombay also there is a decrease; and the Indian States have produced nearly the same quantity. In Orissa there will be small increases according to the estimate. In Madras there will be better production of sugar compared with the previous season. As the crushing season is expected to last longer in Madras, the actual production may register a small increase, over the estimation.

Area under Sugarcane in 1944-45

The total area under sugarcane in the current season of 1944-45 is estimated at 4,134,000 acres as against 4,234,000 acres during 1943-44. The total estimate of the yield of raw sugar (gur) is 54,22,000 tons as against 58,48,000 tons last year. (*Vide* Final General Memorandum on the Sugarcane Crop of 1944-45, published in the *Indian Trade Journal* dated 9th August, 1945.)

The final estimate of the sugarcane crop for 1944-45 based on calculations upto 25th April, 1945, published in the *Indian Trade Journal* dated 9th August, 1945, gives the details of acreage as below :—

Second Crop Forecast for 1944-45 for Sugar

Provinces and States.	1944-45 (Thousands	1943-44 of acres)
U. P. (including Rampur State.)	2,201	2,114
Punjab	602	495
Bihar	362	421
Bengal	310	338
Bombay (including Indian States.)	166	162
Madras	156	138
N.-W. F. P.	96	83
Assam	49	43
Orissa	34	33
C. P. & Berar	32	29
Sind (including Khairpur State)	5	6
Delhi	3	2
Mysore	44	38
Hyderabad	60	53
Bhopal (C. I.)	7	7
Baroda	5	4
Jaora (Central India.)	2	1
Total.	4,134	3,967

In addition to the area for which particulars are given above, the crop is grown on a small scale in certain other tracts in India, the average area of which on the basis of the last quinquennial figures is roughly 35,000 acres which does not come into the above calculation.

The average percentage of sugarcane area in the various tracts to the total area under sugarcane in India based on the figures for the five years ending 1942-43 is as below:—

U. P. 50.8 per cent; the Punjab 11.5 per cent; Bihar 10.9 per cent; Bengal 8.1 per cent; Bombay 3.8 per cent; Madras 3.3 per cent.

In the table below is given the area under sugarcane, under improved varieties, and production of cane per acre, gross production of gur, and calculated production of cane crop from 1930-31 to 1944-45:

Year.	Total acreage (1,000's acres.)	Acreage under improved varieties (Thousands of acres.)	Average cane production per acre. Tons.	Gross production expressed as gur. (Thousands of tons.)
1930-31 ...	2,905	817	12·3	3,359
1931-32 ...	3,076	1,170	14.1	4,116
1932-33 ...	3,424	1,845	14·9	4,859
1933-34 ...	3,422	2,295	15·3	5,055
1934-35 ...	3,602	2,433	15·1	5,292
1935-36 ...	4,154	3,056	15·3	6,102
1936-37 ...	4,582	3,452	15·6	6,932
1937-38 ...	3,869	2,968	15·5	5,579
1938-39 ...	3,130	2,673	15·0	3,572
1939-40 ...	3,640	2,893	15·0	4,748
1940-41 ...	4,598	3,480	15·0	4,794
1941-42 ...	3,515	2,773	15·0	4,371
1942-43 ...	3,590	......	15·0	5,076
1943-44 ...	4,234	......	15·0	5,848
1944-45 ...	4,134 (Estm.)	......	15·0	5,848 (Estm.)

Gur Control Order, 1943 and Its Working in 1943-44 and 1944-45

In pursuance of the policy of maximisation of sugar output and the consequent need to ensure adequate supplies of sugarcane at the minimum price fixed by the Provincial Governments of U. P. and Bihar it was found necessary to discourage the output of gur and regulate its production and movement. With this object in view the Gur Control Order was passed to regulate the prices and production of gur. The decision to regulate prices and distribution of gur was arrived at by the Food Conference held in New Delhi early in 1943 and the Order was accordingly promulgated on 24th July 1943, in the background of the conditions described above.

The Order is a very comprehensive one and later on amendments have been made from time to time to correct the defects noticed in the working of the Order. Under it a Gur Controller for India who is also the Sugar Controller has been appointed with the following powers:—

(1) To fix maximum prices for gur in any specified area;
(2) To prohibit or restrict cane movement from any particular area;
(3) To direct cane growers in that area to deliver cane (*a*) to a particular sugar factory, (*b*) in such quantity, (*c*) at such prices, and (*d*) at such times as may be specified by Controller.
(4) To prohibit or restrict manufacture or gur;
(5) To issue gur quotas to provinces or areas and direct producers and dealers to deliver the same, and
(6) To prohibit gur movement and transport.

From the comprehensive nature of the powers given by the Order it will be clear that the authorities are anxious to afford all facilities to mills for increasing the output of sugar. It will also be clear that the authorities are equally anxious to control prices and arrange movement in an orderly manner and relieve the strain on transport. A larger production of gur would necessarily mean delay in the allotment of wagons to factories as gur being a perishable commodity will have to be accorded priority. Another important consideration is that there should not be any great diversion of demand for sugar from consumers of gur. The consumption of gur in India in rural areas is very great amounting to nearly three times that of sugar. Unnecessary restriction either on the movement or production of gur will cause hardships for the poor and at the same time create more demand for sugar. Owing to the relative cheapness of sugar there has been within recent years greater demand for sugar and this will make the problem of exports and the elimination of "black markets" difficult.

The prohibition of the manufacture of gur within a certain area from the factories and the direction of supplies of cane to particular factories are intended to help mills in getting cane supplies and are therefore in favour of the mills. A ban was imposed on the movement of gur either by rail, land or river except under a permit obtained from the Gur Controller to that effect.

The Gur Control Order mainly affected the surplus producing areas, namely, the U. P., Bihar and Madras. All other areas were deficit areas which would have to import gur to meet the internal requirements. Even though the Punjab is an important producer of gur, it imports nearly 5 lakh tons of gur from the N.-W. F. P. and the U. P.

An announcement issued by the Government of India in October 1943 made it clear that exports on private account were banned and that Government had taken the monopoly of inter-provincial trade. The scheme of the Government while banning exports on private account contemplated allotments of periodical quotas from the surplus areas to deficit areas. On November 12, 1943, a press note was issued by the Government of India explaining that no private exports of gur were allowed from one province to another. Gur was to be exported only by the Governments of the surplus areas to the Governments of the deficit areas or to their accredited representatives in accordance with the instructions of the Gur Controller for India, who would allot periodical quotas for the export of specific quantities from each surplus area to each deficit area.

While the aim of the Gur Control Order was certainly laudable as it was the first and important measure designed to help the producers in preference to gur-manufacturers and ryots, there was general apprehension that the strict enforcement of the Order would affect adversely sugarcane crop and acreage. At first Government was unable to maintain price of gur at Rs. 8 per maund the controlled ceiling price.

The licensing of agents and dealers, the control of movements, the grant of permits, the allotments of quotas and the monopoly of inter-provincial trade naturally created difficulties. The new methods gave rise to good deal of confusion in working. Transport which was the main bottleneck presented difficulties. With the ban on free movements of gur and the lack of adequate transport facilities, there was a glut in the markets in U. P. and prices came down to Rs. 6-8-0. Large stocks had accumulated at the markets for lack of transport. The indiscriminate control of gur in areas where factories were not situated and the decline in prices to below the rate fixed by the Government was the subject of considerable criticism. It was widely feared that the object of the authorities in maintaining a price ratio between gur and sugar had resulted in great confusion and that the total output of gur and sugar would be affected.

Some other defects in the working of the Gur Control Order in its early stages were also noticeable. While there was a scarcity of gur in other parts of the country, large stocks of gur were accumulating in U. P. and Bihar. In the quota arrangements also there were loopholes. The Punjab used to get its requirements from N.-W. F. P. and U. P. For some reasons the N.-W. F. P. was not able to control its price of gur and actually the price was Rs. 14 per maund. The Punjab Government naturally wanted to buy its requirements from U. P. at a lower price. The N.-W. F. P. eventually permitted private exporters to send out gur at price much higher than the controlled rate to Sind which was also a deficit province. Another important point was the prevention of "black markets" and profiteering by importing Governments. Gur acquired by the importing Governments was at a price far below the market value in the importing area and the question of proper disposal and elimination of "black markets" meant some difficulty. Smuggling of gur from areas on the borderline presented a great source of profit to the profiteer.

Comments on the Gur Control Order

The Gur Control Order is like a double-edged weapon which should be used very carefully. An over-zealous control exercised over gur might

create troubles for the factories at a later date. Too many restrictions on cane and gur might tempt the peasants to give up cane cultivation altogether and take to other commodities which are more remunerative. In the drive for maximisation of sugar production, gur production should not unduly suffer and be materially affected except perhaps to the extent of the increased production of sugar. By the application of the Order, one may certainly wish for an increase in the production of sugar by enabling mills to have sugarcane in adequate quantities but by the indiscriminate application of the Gur Control Order, there should not be an increase in sugar output at the cost of gur production. The consumption of gur in India is very large and almost three times that of sugar. Gur is mostly consumed in the place of sugar in rural areas. So the ratios of 3 : 1 between gur and sugar may well have to be maintained even under the Gur Control regime in the interests of the large number of gur consumers in this country. Cane in the gate areas of the factories alone may be discouraged from being converted into gur for the benefit of mills. In outside areas, where no mills are situated, gur production should be allowed. Otherwise, there will be a diversion of sugar consumption in preference to gur consumption in rural areas also. This will create an unduly large demand for sugar and result in complications for the sugar industry. Newer and larger demands for sugar now will only make the operation of Sugar Control Order ineffective and there will be "black markets" in sugar everywhere. Therefore an unduly strict and rigorous enforcement of the Gur Control Order, without gauging its repercussions on the demand for sugar, will only end in chaos in the sugar industry itself and defeat the very object for which the Gur Control Order came into being.

In controlling gur production and prices there are certain factors which should be faced squarely in the working of the Order. The very nature of the commodity, the large number of people who manufacture gur in scattered areas and the enormous quantities produced every year do not make gur easily amenable to control operations. For instance, there cannot be the same leisurely declaration of delivery quotas as in the case of sugar, for gur quickly deteriorates with the onset of the rains. The same condition applies to transport and marketing which should be finished quickly and the stocks of each year must be disposed of that year.

As Mr. Lalchand Hirachand, the outgoing Chairman of the Indian Sugar Mills Association said in his speech, the Gur Control Order is like a 'V' weapon in the hands of the Sugar Controller. It is a double-edged knife which cuts both ways if used improperly. Every caution should have to be taken in putting it into force lest it should turn like a boomerang. "Like all 'V' weapons, its use is also destructive in nature." An improper and indiscriminate application of the Gur Control Order will certainly result in harmful effects both for gur production as well as sugar production in the country.

Working of the Gur Control Order During 1944-45

At the outset of 1944 the prevalence of "black markets" in provinces and places outside U. P. and Bihar, the lack of transport arrangements for gur export and the inter-district ban on movement of gur created a serious crisis in the two gur markets of Meerut and Muzaffarnagar. The ceiling prices for gur were fixed by the Gur Controller at Rs. 8 per maund for 1943-44 season on the basis of a cane price of As. 10 per maund of cane. But the

over-stocked position in the gur markets depressed prices in U. P. exporting centres and the market prices hardly touched the ceiling price any time in U. P. At the same time in places outside U. P. the prices of gur were higher than the ceiling prices fixed by the Gur Controller. For instance, in Bengal, in certain places affected by famine there was good demand for gur as food and it was consumed at as high a price as Rs. 30 per maund. In deficit provinces like Sind, C. P. and Bombay the market prices of gur were much higher than the ceiling price of Rs. 8 ruling in U. P. This disparity in prices encouraged smuggling of gur. Further the importing merchants in other provinces were making larger profits while the gur producer in U. P. and Bihar was obliged to sell his gur at the controlled price of Rs. 8. This state of affairs wherein the producer was not making any margin of profit while the importing merchants were reaping a higher reward dissatisfied the gur interests in U. P. who felt sore at the injustice done to them by control measures. The Gur Controller was unable to prevent the existence of black markets in deficit areas due to the reason that there was almost no control over distribution or prices of gur in other provinces until a very late date when it was introduced.

Prices of gur in U. P. therefore suffered a slump in the summer of 1944. The meagre transport facilities and the irregular and leisurely working of the allotment of quotas accelerated the pace of the accumulation of surplus stocks of gur in the markets and soon there was a glut in the gur markets. The inter-district movement ban proved at first an impediment for transport of gur from the producing centres to the selling markets, thus blocking the new season's gur in U. P. itself. There was a good deal of dissatisfaction over the despatches of gur from the producing areas. The working of the Gur Control Order in the early stages gave rise to a crop of insoluble problems. As a result, prices of gur came as low as Rs. 6 per maund. In the months of June and July 1944, due to the over-stocked position, in the Muzaffarnagar market price of gur sank as low as Rs. 4-8 per maund, the lowest ever touched after the introduction of the Control Order. This created a great stir and the Gur Controller was obliged to turn his attention to (*a*) provide more wagons for transport of gur before the next cane crushing season commenced, (*b*) and evolve a scheme of quotas and control of prices of gur in the importing deficit markets and provinces.

The resolution adopted by the Consumers' Council of the All-India Food Conference held at Delhi in July 1944 clearly expressed the anxiety over the gur position and the disturbing effects produced by the working of the Gur Control Order in the first half of 1944. The resolution reads as below :—

"This Committee views with concern that in gur-producing areas good and valuable gur is destroyed by rains and a large area of cane crop is left unharvested and insanitary conditions are produced by the wrong policy adopted by the Government of India. In the opinion of the Committee, gur is a valuable and necessary food, but being perishable, gur should be allowed to be transported to other areas before the monsoon. In future no restrictions against its transport by bullock carts, lorries, etc., should be placed and the movement of gur should be freely allowed. The present glut should be removed as soon as possible to avoid epidemics and further loss to this valuable and useful food."

Despite the adverse criticisms and the temporary uneasy position created in the gur markets by the operation of Gur Control Order, the authorities

were confident that they would tide over the critical situation and with the provision of transport and fixation of quotas for provinces, the glut would be removed and prices would adjust themselves as a result. The Gur Controller therefore relaxed no provision of the Order as he felt sure of the necessity and the ultimate success of the control measures in averting any price racket and black markets in sugar and gur. To cope with the situation, transport facilities were provided immediately. In the months of June, July, August and September 1944, vigorous efforts were made to move the vast quantities of gur which were lying in the markets. Out of a total export quota of 380.000 tons from U.P., nearly 250,000 tons were exported from the province by rail, road and river. The strenuous efforts made by the Gur Controller and the U.P. Government in arranging quick transport for the gur that had accumulated in 'mandis' reduced the stocks to a large extent and prices began to react slowly to the new conditions in the gur market.

Although enough transport was provided by the Government before the commencement of the 1944-45 crushing season, due to the acute food position and the difficulties involved in the over-production of gur, the U.P. Government felt compelled to restrict the output of gur in the ensuing season. With that view, on the 9th October 1944, the Government issued a press note warning cultivators against the production of gur. The announcement made an appeal to the cultivators to restrict cane sowing and warned them that if they planted an excessive area under cane outside factory zones and a glut in the gur market occurred in 1946, Government would not help them in marketing the same. It expressed the wish that the uneconomic price of gur which prevailed since the opening of the year would lead sugarcane growers outside the factory zones to grow more food crops. Thus a definite measure was taken to discourage over-production of gur in the season 1944-45.

With the revision in prices of cane and sugar announced by the U.P. Government and the Sugar Controller in October 1944 for the coming season of 1944-45, gur ceiling prices were also altered. The ceiling price for the new season gur in U.P. was fixed at Rs. 8-12-0 per maund of standard quality. In Bihar, the ceiling price was fixed at Rs. 8-4-0 to discourage gur production to a larger degree. This price of gur was correlated to a cash cane price of 11 annas per maund. With an assumed recovery of 10 per cent and the cane price at 11 annas, the total cost of raw material would be Rs. 6-14-0. If to this sum a figure of Rs. 1-14-0 for the cost of manufacture of gur and profit were added, the maximum price of Rs. 8-12-0 could be arrived at.

To prevent merchants in the importing deficit provinces from misusing their permits, a new scheme of control over the distribution of gur in all provinces was also evolved by the Gur Controller. The Provincial Governments were asked to fix maximum prices for imported gur and arrange the proper distribution of it in the provinces. Permits for exports were strictly scrutinised and stringent restrictions were introduced to check "black marketing" in permits and prevent constant changing of the names of importing places by merchants.

By a notification dated 29th November 1944, the Gur Controller for India, in consultation with the U.P. Government, fixed a higher export quota of 3,62,000 tons for the province. This quota was to be distributed according to a scheme among the deficit provinces. The export quota of

U. P. for the previous season was 2,99,000 tons out of a total export allocation of 3,80,000 tons made from all the surplus provinces. The increased allocation for 1944-45 was based on the experience gained by the working of the Gur Control Order in the first year. The deficit provinces were asked to give their requirements at the beginning of the season and on this basis export allocations were made to the surplus provinces. Thus the scope for the existence of black markets in deficit provinces was restricted by taking into account the full quotas needed by the areas and by asking the Provincial Governments in each area to undertake the distribution of imported gur at controlled prices. Thus a more scientific and orderly scheme of distribution was being evolved for the 1944-45 season.

With the consent of the Central Government, the Bihar Government imposed a ban on export of gur from the province. The Bihar Government, due to decrease in the acreage of sugarcane in that province, did not ask for the allocation of any quota for export of gur. The press note issued on 15th November 1944 stated that there had been a decrease in the acreage under sugarcane by 20 to 25 per cent approximately and consequently if gur was allowed to be made for export, sugar factories would not be able to get their normal supply of cane. Therefore, export of gur was prohibited from Bihar and no quota for the time being was fixed for export. The inter-district ban on movement of gur was re-introduced on 7th December 1944.

Measures of control over gur were inaugurated in other provinces also. The Government of Bombay fixed the wholesale ceiling prices of gur in the districts of Nasik, Ahmednagar, Poona, Sholapur, Satara and Belgaon at Rs. 14 per maund. Distribution of gur was also taken under control with effect from January, 10, 1945. In Bengal also gur came under control. The Government fixed the controlled rate for gur at Khulna at Rs. 12-2-0 per maund. On 23rd February 1945, the Government of Bombay issued an order fixing the retail prices of the three qualities of gur in Bombay City between 0-6-9 to 0-6-0 per seer. In Bihar also the ceiling price of gur was determined at Rs. 9 per standard maund. Likewise in Delhi, Ajmer-Merwara and other deficit areas gur ceiling prices were fixed and distribution was brought under control.

On 24th January 1945, the U. P. Government issued an Order prohibiting the movement of gur by road or river without a permit. As the crushing season of 1944-45 did not show signs of maximum production of sugar due to short supply of cane to the factories, the U. P. Government resorted to the method of prohibition of the manufacture of gur in certain areas with a view to help the factories located in the areas. The problem of securing better cane supplies to sugar factories cropped up with the unsatisfactory results of certain mills as the crushing season advanced and mills began working at full speed. The U. P. Government, agitated over the situation, issued the most sweeping measure of control by prohibiting manufacture of gur in reserved gate areas of about 20 factories and the export of sugarcane therefrom. By a notification dated 2nd March 1945, the U. P. Government banned the movement of sugarcane by rail, road or river from any place situated within the reserved areas of the following factories in the provinces :

1. Sakhoti-Tanda, 2. Mohiddinpur, 3. Begamabad, 4. Khatauli, 5. Mansurpur, 6. Saharanpur, 7. Deoband, 8. Rohana Kalan, 9. Pilibhit, 10. Manpur-

Nagaria, 11, Dhampur, 12. Bareilly, 13. Maholi, 14. Hardoi, 15. Khalilabad, 16. Barhni, 17. Bhatni, 18. Pharenda, 19. Shahganj, 20. Nawabganj.

By a subsequent notification dated 14th March 1945, three more areas were added to this list, viz. Shamli, Golagorkarannath and Ramkola. It was hoped that this prohibition would help the mills in securing better supplies of cane for the remainder of the crushing season but as the Order came too late when almost the mills were closing it did not materially enhance the output of sugar. Simultaneously the U. P. Government, with a view to help mills and discourage output of gur even in the last few days left in the crushing season, issued instructions to Regional Food Controllers to requisition gur in case gur prices persisted at a level over the ceiling price of Rs. 8-12-0 per maund. Such a move would effectively discourage gur production and help the drive for food production in the coming season. The immediate effect of this order was that banks refused to advance loans on gur and gur prices came down to the ceiling fixed. A semi-compulsory and extra-legal measure of asking gur manufacturers to bring in along with gur 5 per cent wheat for sale in the Muzaffarnagar was enforced by the local authorities for some time. By this, gur was not only used as one of the means of tapping the wheat resources of the country-side but the manufacturer of gur was penalised by extra demands to discourage him from turning cane into gur. But this invidious method resorted to for a temporary period, was given up soon.

The short-fall in cane supply also affected gur output in the season 1944-45. Since March 1945 there was a definite tendency for an upward swing in gur prices in the gur markets in U. P. The short crush, in the Western Group, the definite shortage of cane sugar consequent on low crush and the Government's decision to raise water charges on cane cultivation by 50 per cent—all these factors show a further hardening of gur prices in U. P. this season. With smaller arrivals of gur, the demand by the import stations became very acute by the end of March 1945. There was no over-stocked position in the gur markets as it was in the last season. Transport facilities and the quota system seem to have definitely improved the gur position at present. Now the whole situation in regard to gur depends upon the manner in which transport will be handled in the ensuing months. If from the start, gur movement takes place smoothly and permits for quotas are issued to the consuming provinces according to their periodic requirements the spectacle of low gur prices in U. P. and high prices in some of the consuming areas will not recur again. The key problem, therefore, is transport for quick despatches of gur from U. P. to other areas in the current season.

Production of Sugar by Khandsari and from Gur

Refined sugar is manufactured by three different processes in India, namely (1) direct from cane from modern vacuum pan factories, (2) from cane by indigenous open pan factories, i.e. Khandsaris (through the intermediate process of Rab), and (3) from gur refined in modern refineries.

A detailed reference has already been made to the production of sugar by the first method, i.e. direct from cane in modern vacuum pan factories. In regard to sugar production by Khandsari, no reliable and definite statistics are available but an estimate can roughly be made on reports. The operation of Khandsaris is particularly noticeable in the United Provinces where

60 per cent of the total Khandsari sugar production in India is being produced. It is estimated by the authors of "Report on the marketing of Sugar in India and Burma" that Khand forms nearly 13 per cent of the total white sugar made in India. About 85 per cent of the quantity of Khand is directly prepared from cane or juice and the rest by re-melting gur. Like gur sugar, its production also depends upon the relative prices of gur and sugar in any year.

The quantity of Khand prepared from cane direct has varied during recent years from 78,000 tons in (1938-39) to 143,000 tons in (1936-37) and 100,000 tons in (1943-44). The production of Khand from gur being very uneconomic is steadily going down. The production of Khandsari sugar during 1939-40 was about 1.25 lakh tons, in 1941-42 about 1 lakh tons in 1942-43 about 1.5 lakh tons and 1943-44 about 1 lakh tons. Because of the short supplies of cane and none too attractive prices of sugar it is estimated that the total production of Khandsari sugar for the current season of 1944-45 will be about 80,000 tons. During the 1943-44 season production by Khandsari factories ranged between 90,000 to one lakh of tons and so the total production could be taken as one lakh of tons for that year.

In this connection it is of interest to observe that although the estimated production of Khandsari sugar is so large, the figures of the amount of excise duty collected during the last nine years would be so low that they would point out a very small production. The reason for the collection of so small an excise duty is found in the fact that many Khandsaris are small units which can easily escape paying the excise duty. The total amount of excise duty collected from the production of Khandsari sugar in 1934-35 and subsequent years is as follows :—

Year.	Amount. Rs.	Year.	Amount. Rs.	Year.	Amount. Rs.
1934-35 ...	77,000	1937-38 ...	51,000	1941-42 ...	4,43,000
1935-36 ...	60,000	1938-39 ...	59,000	1942-43 ...	1,57,000
1936-37 ...	47,000	1939-40 ...	1,46,000	1943-44 ...	3,27,000
		1940-41 ...	2,86,000		

The recent increases in the amount of duty collected show that excise duty is being collected from a larger number of Khandsaris than before 1939.

Definition of Khandsari Sugar

Under the Sugar Excise Duty Act, 1934, excise duty is levied on Khandsari sugar (i.e. sugar in the manufacture of which neither vacuum pan nor vacuum evaporator is employed) under Section 3(1) of the Act. For the purpose of the Act 'sugar' means any form of sugar containing more than ninety per cent of sucrose, and in order that sugar may be taxable, it must be produced in a factory which means any premises in any part of which any manufacturing process connected with the production of sugar is being carried on or is ordinarily carried on, with the aid of power. The sugar produced by the purely agricultural section of the Open Pan Sugar Industry where work is done without the aid of power is not liable to excise duty. Similarly, products like Gur and Rab which do not contain 90 per cent of sucrose are not liable to excise duty. It is well-known that several small-sized vacuum pan concerns manufacturing Khandsari sugar had in order to avoid the excise duty, so adjusted their business that they would not come within the provision of the definition of a 'factory'. With effect from

28th February, 1939, however, under the amended definition of 'factory' they were also liable to excise duty at the rate of 0-8-0 per cwt.

Khandsari production is still being continued because the Khandsaris enjoy definite advantages in spite of the uneconomic method of production of sugar. The Khandsaris need not pay (*a*) cess on cane which the factories will have to pay, (*b*) incur no expenses by way of commission to co-operative societies, (*c*) spend nothing in railway freight or other transport costs for supplies of sugarcane, and (*d*) possibly escape on occasions even the payment of excise duty of 0-8-0 per cwt. All these factors are responsible for the continued existence of Khandsari production of sugar. The total cost of manufacture of Khandsari sugar may be taken at Re. 1 to Rs. 1-4-0 per maund. The *Report on the Marketing of sugar* estimates the approximate cost of a typical Khandsari concern in Rohilkhand (U. P.) at Rs. 1-1-8 per maund for khand recovered and rab treated at 0-3-7 per maund.

Khandsari industry appears to be at an advantage in the interior areas, *far removed from factories where cane is available cheaply and which* cannot be disposed of in any other profitable way. The Khandsari sugar factories can be helped by the Government by improvement of the equipment and introduction of improved types of crushers, juice-boiling bells, etc.; by improvement of the methods of manufacture in order to improve the quality of the finished product; and by better facilities for getting the necessary equipment on hire and by better marketing facilities. The Imperial Council of Agricultural Research sanctioned a grant of Rs. 1,67,380 for the establishment of a Sugar Research Testing Station for the indigenous system of gur and sugar manufacture for a period of 5 years ending in November 1941. A small grant was also made to the Government of Bihar for investigation into the possibilities of manufacturing Khandsari sugar by single pan method. But so far no material results out of these schemes have been placed before the public. The newly constituted Central Sugarcane Committee may be expected to take some interest and explore the avenues of adopting better methods and getting improved qualities of sugar by the Khandsaris.

Sugar Refined from Gur

The third method of producing sugar is by refining from gur. The production of sugar refined from gur in modern refineries is naturally dependent on the relative cheapness of gur and the disparity in prices between gur and sugar. In the years when there will be keen competition from sugar mills due to plentiful supplies of cane and increased output, production of refined sugar will be rather small. When there is a wide disparity between the prices of sugar and of gur so as to enable sugar production more profitable, the refineries will produce more sugar and enjoy prosperous conditions. Thus, production of sugar by refineries varies very much from *year to year and is governed by unpredictable factors.*

Production of sugar by refining gur, in India, in 1943 was the lowest on record, being only 6,370 tons against the previous low record of 13,400 tons in 1942. Only five factories worked, one in the U.P. and four in the Madras as against 11 in the previous year. The main cause of low production was high gur *prices owing to shortage of sugar.* The average recovery of sugar per cent gur was 64.6 as against 61.8 in 1942, thus showing

an increase of 2.8 per cent over the last season's recovery. The prevalence of high prices for gur in the season was the cause of low production of sugar by gur refineries.

In the United Provinces the quantity of gur melted was 750 tons in 1943 as against 3,600 tons in 1942. Sugar manufactured was 450 tons against 2,100 tons in the previous season and molasses obtained were 240 tons against 1,200 tons in the year 1942. Thus in the year 1943 the output of sugar as well as molasses were very low. Recovery of sugar per 100 tons of gur melted was 62.50 as against 58.3 in 1942. The increase in recovery of 4.2 per cent during the season is remarkable as an achievement. Recovery of molasses per 100 tons was the same as the previous season at 33.3.

In Madras gur melted was 9,140 tons in 1943 as against 18,100 tons in the previous year. Sugar manufactured was 5,920 tons as against 11,300 tons in 1942; and molasses obtained 2,440 against 6,400 tons. The recovery percentages for sugar and molasses for 100 tons were 64.77 and 26.70 against 62.4 and 35.4 in the last season. Recovery percentage of sugar increased by 2.37 per cent while the recovery of molasses decreased by 8.7 per cent compared with the previous year.

The total production of sugar and molasses by refineries in India for 1943 were as follows: gur melted 9,860 tons; sugar manufactured 6,370 tons; molasses obtained 2,680 tons; recovery of sugar 64.60 per cent; and recovery of molasses 27.18 per cent. The comparative figures for the previous season of 1942 were gur melted 21,700 tons; sugar produced 13,400 tons; molasses obtained 7,600 tons; recovery of sugar 61.8 per cent and of molasses 35.0 per cent.

Sugar Refined from Gur in India for 1944

As we go to press, the Note on production of sugar by refineries from gur was published by the Director of Imperial Institute of Sugar Technology for the year 1944. Only four factories produced sugar by refining gur in 1944 as against five in 1943. Total production, however, showed a slight increase, being 7,980 tons against 6,370 tons in 1943. The average recovery of sugar per cent was 59.4 against 64.6 in the previous year. The distribution of factories was two in Madras, one in U. P. and one in the Indian States, altogether making a total of 4 for the whole country. The low production and the smallness in the number of refineries can be explained by the high prices prevailing for gur in many parts of the country last year.

It will be interesting to study the following table to understand the extent of the contribution of refineries to sugar and molasses production in India during the last eight years:—

Production of Sugar and Molasses in India by Gur Refineries

Particulars	1937	1938	1939	1940	1941	1942	1943	1944
Number of Gur refineries operating	9	10	10	10	14	11	5	4
Gur melted in tons (thousands)	32	26.7	23.3	50.8	87.3	21.7	9.8	13.3
Sugar manufactured in tons (thousands)	19.5	16.6	14 2	29 6	48.5	13.4	6.3	7.9
Molasses obtained in tons	10.1	8.8	6 4	15.8	32 0	7.6	2.6	3.0
Recovery % of sugar from Gur	60.9	62.1	60.9	58.2	55.6	61.8	64 6	59.4
Recovery % of molasses from Gur	31.5	32.9	27.4	31.1	36.7	35.0	27.1	28.1

Distribution of Sugar in India

Since the institution of control over the sugar industry, the distribution of sugar has been under the supervision and direction of the Sugar Controller for India. As already observed in the foregoing pages, a quota system of allotment from the various surplus to the deficit provinces with minimum pressure on transport was introduced by the Sugar Controller in 1942. Gradually the shortcomings in the operation of control measures noticed from time to time were eliminated and improvements in methods devised to make controls effective.

The following statement gives the provisional quotas allocated by the Sugar Controller for the year 1944-45 from the all-India pool:—

Area	Tons	Area	Tons
Assam	16,000	Jammu & Kashmir	4,500
Baluchistan	4,500	Madras & States	98,300
Bengal & States	141,000	N.-W. F. P.	16,500
Bombay & States	189,000	Orissa	7,500
C. I. States	22,000	Punjab & States	147,000
C. P. & States	33,000	Rajputana	35,000
Delhi	17,500	Sind & States	29,200
Hyderabad	16,000	Bihar	52,000
		U. P. & States	125,500
		Total	* 955,050

(Includes 44,000 tons of Khandsari sugar allotted to areas outside the U. P.)

As in the previous year, effective control over distribution of sugar in the consuming centres with the co-operation of the Provincial and States authorities, timely and adequate provision of transport for the allocated quotas are the two main factors that will contribute to the success of control and the stamping of "black markets" in sugar during the current year. Therefore organisation of distribution and transport of sugar should, as in the past, be carefully looked into by the Sugar Controller for India at this stage of enforcement of control orders in 1944-45.

Importance of Sugar Industry in National Economy

We have dealt with at length the various problems of the sugar industry during 1943-44 and the prospects for the current season of 1944-45. It now remains to see the wider picture and assess the importance of the sugar industry in the national economy of this country.

The figures of production given above will unmistakably demonstrate the importance and present magnitude of the sugar industry in India. In this connection it should be remembered that the Sugar Industry is at present the *second biggest* industry in India, the Cotton Textile Industry being the first and largest, and both these industries are owned, controlled and managed to a very large extent by the nationals of this country. The prosperity of nearly 20 million agriculturists is linked up with the welfare and progress of the sugar industry in as much as the sugarcane growers in India are mostly small-holding peasants, with meagre incomes. Taking into consideration these facts and also that the development of sugar industry has enabled India to keep within her borders a huge annual drain of about

Rs. 16 crores paid to foreign countries before the establishment of the industry, it is easy to see the importance of the Sugar Industry in the national economy of the country. The need for its development and continued progress for the welfare of India cannot be over-emphasised. The rapid growth of the Sugar Industry in a comparatively short period to its present position of eminence, the possibility of production of sugar from the existing equipment of factories in quantities larger than the present estimated consumption, and the invaluable contribution Sugar Industry has made during the most testing period of the war are the highlights of the history of the Sugar Industry in India. It is therefore essential, nay, very vital and indispensable, to create conditions for a complete cessation of all imports of foreign sugar into the country and for the expansion of markets within the country and without the country to as large an extent as possible.

So long as the war lasts the problem, of course, is not difficult because there will be practically no competition either from Java or Phillippines. As a matter of fact, Indian sugar has assumed great importance during the war with the loss of Java and it may be hoped that it will emerge with a stronger and sounder internal and external position through the ordeals of war. With the termination of the International Sugar Agreement there is a large scope for India to build up an export market, after producing enough to go round for the internal consumption and military demands. Before Java could come into the world's markets again, Indian sugar should acquire and consolidate its position in nearby markets.

Consumption of Sugar in India

The present annual consumption of sugar is roughly estimated to be about 11 lakh tons per year (our *per capita* consumption is very small as compared with most other countries of the world in normal times as a glance at the relevant Table No. — in the *Sugar Industry at a Glance* will show). During the last two or three years due to the compulsory cut under rationing, the *per capita* consumption of sugar in India must have temporarily come down further. Consumption of sugar in India, however, is not steady and varies from year to year with the rise and fall of price of sugar, with changes in economic conditions, etc. But we will not be far wrong if we estimate the annual consumption of sugar in India at 10¾ lakh tons in 1938-39, 10¼ tons in 1939-40, 11 lakh tons in 1940-41, 10½ lakh tons in 1941-42, 11 lakh tons in 1942-43 and 12 lakh tons in 1943-44. The inflationary conditions and the increased economic activity in the country due to the war-effort have resulted in the inclusion of a new class of consumers of sugar—a class which had never taken to consumption of sugar before. Consequently demand from civilian sources for consumption has also increased in quantity. The Army is now also an important consumer of sugar, and in order to reduce their consumption of sugar, a gur ration was also introduced in the military since 1943. Increase in the habit of consuming sugar is helpful to the industry for the future. It can definitely be expected that internal consumption of sugar would be higher after the war, due to the higher standard of living following from the huge plans for the economic development of the country. The Bombay Plan which contemplates the provision of basic amenities like good food, etc. if implemented, will necessarily give an impetus for consumption of sugar as an essential article of food by millions in this country. Therefore in the post-war period, there are large prospects for increased consumption of sugar in the country itself. Even an

output of 15 lakh tons can now easily be consumed at the present scale of demand for sugar in the country, but, due to rationing, those that can consume more do not get it.

Value of Imports of Sugar and Reduced Revenue from Import Duty

The development of Sugar Industry in India is a great national need of the country. The decreasing measure of dependence of this country on outside supplies of sugar will be clearly seen from an examination of the statistics of imports (*vide* Table No. 32). Since the loss of Java to the enemy there was a complete stoppage of imports of foreign sugar into India. We hope that there will be practically no import of foreign sugar now, India having reached a position of self-sufficiency.

India Exports a Small Quantity of Sugar

Since the last two years, despite rationing of sugar in the country and the large military demands for it, India exported a small amount of sugar to the neighbouring countries. The export quota for 1943 and 1944 was fixed at 15,000 tons. In answer to a question from Mr. Manu Subedar in the Central Assembly on March 16, 1945, Sir J. P. Srivastava, the Food Member said that a quota of about 17,000 tons of sugar for export to neighbouring countries was permitted by the Government of India. The export in 1942-43 was 30,836 tons, in 1941-42, it was 18,843 tons, and in 1940-41, it was 13,965 tons, according to the Review of the *Trade of India*, for 1942-43 published in 1945.

With the clearing of the war clouds in the West and the end of the European war, the improvement in shipping position will be definitely felt in a short time and the sugar-starved Middle East countries are likely to ask for Indian sugar. Therefore both to safeguard our internal consumption position and to help the neighbouring countries with reasonable exports of sugar, the policy of maximisation of sugar output in India must be pursued with unrelenting vigour and undiminished enthusiasm.

Protection to the Industry to Continue till 31st March 1946

The sugar industry made tremendous progress under protection granted to it since 1932. The results of the last fifteen years have justified amply the wisdom in extending protection to the industry and its contribution is immense today for the welfare of the nation. It would be difficult to imagine what plight we would have been in, had there been no well developed sugar industry in India and had we depended upon imported sugar for our essential needs. The question of protection has become insignificant with the dislocation in international trade and the eclipse of Java from the sugar markets of the world. It can be said with a good deal of truth that Indian sugar has no competitor now in the field both in the internal markets as well as the sugar-starved Middle East and nearby markets. However, the broader question regarding the need for estimating the quantum of protection necessary after 1946 cannot be ignored. If protection is to be withdrawn in the post-war years, it should only be done gradually and by progressive stages, carefully judging and studying the reaction of each step on the industry in the general post-war setting of the trade and commerce.

We suggest, however, that the present protection should be continued for a further period of 3 years, when the question can be appropriately examined by a Tariff Board after conditions become normal and stabilised. The present import duty on sugar is Rs. 6-12-0 per cwt. which, with a surcharge of 20 per cent, and addition of an equivalent excise duty of Rs. 3 per cwt. amounts Rs. 11-1-7 1|5 per cwt. (*Vide* Table 32, on page xv, in *The Sugar Industry at a Glance.*)

Sugar Industry Protection and Consumers' Interests

The effect of the protection granted to sugar industry in India from the point of consumers needs a little examination here. A detailed discussion of protection *versus* the consumers' interests has been given in our 1938 *Annual*, and only a bare outline is needed here. We pointed out previously the beneficial result of the policy of discriminating protection adopted by the Government of India and came to the conclusion that the policy of liberal protection to sugar proved to be an unqualified success in that it was responsible for the rapid strides that the industry made in 6 to 7 years. As a result of the phenomenal development of the sugar industry in recent years, this country is now self-sufficient in regard to the requirements of sugar and the Indian sugar industry has also played a very important role in war-time economy of the country. The Tariff Board also came to a similar conclusion that the "ordinary consumer" has, so far, no cause for any complaint against the policy of protection and indeed has every reason to be satisfied. With only a small sacrifice on the part of the consumers, we have been able to develop a very important large-scale industry in the country and this is a great achievement in itself, about which the whole country may feel proud. The advantages gained in the long run will certainly outweigh the negligible sacrifice made by the consumers. In the post-war years, the consumers have every right to expect a lowering of sugar prices, along with a fall in the general level of prices. A word of explanation is necessary here in regard to the rise in sugar prices during the last three years. This rise was necessitated by the increase in the price of cane, necessitated by the increase in the cultivator's cost of production, and the increase in manufacturing costs due to the war.

There is every reason to hope, that with the improvement in cane-growing, the development of subsidiary industries like power alcohol, plastic and rayon manufacture from bagasse, etc. it will be possible to bring about a reduction in prices of sugar, and the Indian consumer will not have to regret at any time the generous policy of protection pursued towards the sugar industry.

Protection Decidedly an Advantage to the Country

After a careful appraisal of various relevant factors, e.g. the magnificent progress of the industry, the almost complete self-sufficiency that we have achieved in regard to sugar, the improvement in the lot of millions of cultivators as a result of better returns from the cane crop cultivation, the relief afforded by the industry in cutting down the problem of severe unemployment in the country, particularly amongst the educated and technical men, the subsidiary industries which are bound to spring up, the scope for profitable development which was afforded to indigenous dormant

capital during a period of acute world depression, the development witnessed in villages in the gur industry, and the general confidence gained by industrialists and managers of big establishments in India by the expansion of the industry, we feel that any frank and unbiassed person cannot help arriving at the conclusion—perhaps the only conclusion—that the development of the Indian Sugar Industry has completely vindicated the policy of protection which has indeed proved a great blessing to the country. It has made possible for the people to get their quota of sugar, even during the war period, although perhaps in a smaller quantity, and thus has been responsible in eliminating a sugar famine which was the lot of many countries during the Second World War. The Sugar Industry today is unquestionably a great national asset and only due to its development to its present size, it was possible to supply this cheap, essential, energising food, containing 100 per cent carbohydrates, to the people of the country, at a time when there is a shortage of carbohydrates *in general in all parts of the world.*

Minimum Cane Prices and Production of Sugar in Provinces and States

We have so far dealt with the problems of sugar industry at length in the two major provinces of U. P. and Bihar as well as with the total all-India production of sugar during 1943-44. Likewise we have dealt with the minimum prices of cane fixed in those two Provinces and many other problems peculiar to those two Provinces but having a bearing on the sugar industry as a whole. Let us turn for a moment towards other Provinces.

Sugar Industry in Madras during 1943-44

The area planted with sugarcane in the Madras Presidency during 1943-44 showed an increase of 26,000 acres over the last year, the figures being 1,47,980 acres against 1,21,970 acres in 1942-44. The increase in acreage is due to better return to cane growers in factory areas and the higher prices of gur and consequent good demand for gur. The Government of Madras banned manufacture of gur in factory areas and directed the supply of cane to the factory at the rates fixed by them in order to encourage maximisation of sugar output. Factories paid for cane from Rs. 17 to Rs. 28 per ton. This was the minimum price fixed in the province for sugarcane. The total production of sugar in the Madras Presidency was 44,100 tons in 1943-44 against 32,700 tons, in 1942-43.

Sugar control worked on the whole in a satisfactory manner during the year. Sugar distribution to the districts was arranged as per Zonal Scheme introduced by the Commissioner of Civil Supplies and worked well. There were no "black markets" on any considerable scale.

Sugar Industry in Mysore during 1943-44

The sugar factory at Mandya in the Mysore State worked for a total of 250 days and the total quantity of cane crushed was 2,04,587 tons. Sugar produced was 20,210 tons during 1943-44 as against 15,666 tons in the previous season. There was an improvement in the recovery, which stood at 10.26 per cent compares favourably with the All-India average recovery of 10.26 per cent. The output of sugar would have been higher during the year, but for the drop in the supply of sugarcane, the planting of which received a set-back owing chiefly to the offer of more attractive prices for paddy and other food crops as well as for gur manufacture.

The minimum price fixed for sugarcane during the year 1943-44 was Rs. 18 per ton. This was increased further during the year 1944-45 in view of the increase in the ex-factory price of sugar by Rs. 1-7-0 per maund with effect from 20th October 1944. The quantity of molasses produced was 6,100 tons during the year 1943-44 and the whole of it was utilised for the manufacture of power alcohol and rectified spirit.

Sugar Industry in Bombay-Deccan during 1943-44

-The 1943-44 cane-crushing season in Bombay was moderately good for sugar output. The crop was on the whole fairly satisfactory and free from diseases. Sugar production was maintained on a satisfactory level in spite of difficulties of harvesting, labour costs and short supplies of essential chemicals and others. Total production of sugar in the Bombay-Deccan was 98,000 tons in the season 1943-44 compared with 96,438 tons in the previous year. Bombay is a deficit sugar province as the output falls short of consumption. Production is only about half of the estimated provincial consumption of Bombay.

Valuable experimental work on sugarcane cultivation is being continuously carried on by some of the Deccan mills and useful information and data have been collected by research. Due mainly to irrigation and water supply difficulties, scope for the expansion of sugar industry in the Deccan Canal areas is being restricted. On the other hand, sugar production will probably suffer and come down in 1944-45 due to the enforcement of Bombay Growth of Food Crops Act, making it compulsory for all sugar mills to put under cultivation of food crops and cereals 50 per cent of the acreage of sugarcane crop.

In this connection it may be recalled that the Bombay Government, with a view to further the "Grow More Food" campaign, passed in the middle of 1944, the Bombay Growth of Food Crops Act, thereby compelling the sugar factories of the Province to devote half of the land for the cultivation of food crops like cereals for the season 1944-45 and thereafter. The enforcement of the Act entailed considerable difficulties as the sugar mills were obliged to put 50 per cent of their reserved cultivable area to produce food crops. Despite several protests from the sugar mills and the public, the Government of Bombay persisted in its enforcement for the current season of 1944-45 and did not modify the provisions in so far as it related to sugar mills.*

In Bombay, one distinguishing feature of the sugar industry is that mills themselves own large plots of land in the areas nearby and raise the major portion of their cane requirements for making sugar. In U. P., Bihar and other areas, the mills on the contrary, depend for the supply of cane on individual cultivators and small peasants who cultivate the sugarcane crop in their fields. Thus the Bombay sugar factories possess a definite advantage of having all their cane supplies under their own control. The benefits of large-scale cultivation and use of machinery and tractors for tilling the soil can, thus, be enjoyed by the sugar mills who own large plots. But the enforcement of the Bombay Growth of Food Crops Act for the sugar mills is fraught with grave consequences for the sugar industry in the Province as the mills will have short supply of cane if 50 per cent of their sugarcane acreage is turned to the cultivation of food crops. Such a con-

* There is some hope of this matter being re-considered. *Vide* recommendations in this behalf, on page xxxv.

tingency will keep the mills idle in the crushing season for considerable time for lack of cane supplies and result in a decreased output of sugar in Bombay, which is unfortunate, for various reasons.

Commenting on the application of the Bombay Growth of Food Crops Act to the sugar mills, Mr. M. P. Gandhi, *Editor, Indian Sugar Industry Annual* in a press statement, said :—

> "The Sugar Controller's recent reduction of the sugar quota for the various provinces this year, following the expected smaller sugar production in 1944-45, and the decision of the Bombay Government to enforce the Bombay Growth of Food Crops Act, thereby compelling the sugar factories of the Province to devote half the land for the cultivation of food crops, suggests lack of co-ordination in the activities of the various departments of Government. The enforcement of the compulsory cultivation of food crops on 50 per cent of the cane areas in Bombay Province will result in a further reduction in the output of sugar in Bombay where the total production last season (1943-44) was about 96,000 tons, while the quantity allotted for civil consumption was about twice as much. When this reduction in production by the Deccan factories in 1945-46 is coupled with the short-fall in U. P., Bihar, Punjab and Bengal where the acreage under cane is 25 per cent smaller, the shortage of sugar production in subsequent seasons in the whole country will be keenly felt by the people whose ration is likely to be curtailed if the defence services' demands and exports are not materially reduced."

It is to be hoped that the Bombay Government will re-consider its decision even now in the light of the declared aims of the Food Department and the Sugar Controller to *maximise* sugar output in the country, and to modify the operation of the Act so as to exempt cane-growers, near factory areas, whether individuals or companies, from the compulsory turning of 50 per cent of their land into producing food crops. This measure is very essential in the interests of the immediate needs of the consumers as well as the future of the sugar industry in the Province, for after all sugar is also a very valuable article of diet, which is in short supply.

In any cursory survey of the progress of sugar industry in Bombay-Deccan, special mention must be made of the recent experiments that are being made for the manufacture of sugar-candy in India. A sugar-candy research scheme, financed by the Imperial Council of Agricultural Research is in progress at Ravalgaon (Nasik District) for the last 3½ years. Outstanding improvements such as the use of steam and modern machinery have been introduced in the process of the manufacture of sugar-candy. The plant at Ravalgaon is the first of its kind in India and in quality some of the varieties of candy produced equal if not excel the imported sugar-candy. Arrangements are also being made to train chemists and *Karigars* intending to be employed in this industry.

There are very few mills in India capable and equipped with the necessary plant for the production of sugar-candy which is very much in demand in this country and is largely imported from abroad. The Ravalgaon Sugar Farm has made successful efforts to produce good variety and types of sugar-candy crystal. We venture to suggest that sugar mills in other provinces may profitably explore the avenues for producing sugar-candy in the post-war period.

Sugar Production in Bengal and Other Areas in 1943-44

Famine and disorganisation in civilian life in Bengal resulted in lower production and short-season. Production of sugar in Bengal for 1943-44 amounted to 13,600 tons as against 16,500 tons in the previous year while the yearly consumption is as high as 1½ lakh tons for Bengal and the neighbouring States. The number of factories that crushed cane were 6 against 8 in 1942-43 and even those under work did not obtain a satisfactory crush for lack of cane supplies. The province was deeply afflicted by widespread famine. Naturally shortage of labour and other factors also affected the output of cane crop.

The deep scars left by famine on the economic life of the Province persist even today and the output of the current season (1944-45) also will be comparatively poor.

In Punjab, N.-W. F. P., Orissa and Indian States production of sugar during 1943-44 was fairly good and there were no special features. Production of sugar in Indian States amounted to 123,800 tons in 1943-44 compared with 85,000 tons in the previous year, thereby showing nearly 45 per cent increase in total output.

Sugar Enquiry Committee of Bengal 1942-43

The Report of the Sugar Enquiry Sub-Committee appointed by the Government of Bengal was published in 1942. The Bengal Government naturally felt anxious to develop and increase production of sugar in the Province as the estimated capacity of output of the existing mills being only about 50,000 tons against an annual consumption of 1.5 lakh tons. There has not been much co-ordination between the mills and the growers of cane. Further the ryot in Bengal has always a preference for paddy and jute crops. The need for planned development of sugar industry in Bengal was very great.

As a result of the findings of the Special Committee, the Bengal Sugar Board was constituted as an advisory body to suggest plans relating to increased production of sugar and gur in the Province. A detailed account of its functions and powers has been given in our 1943 *Annual* (see pp. 48-49). It must be observed that due to the abnormal war conditions and the proximity of Bengal to the enemy occupied zones, it has not been possible to implement the recommendations of the special Enquiry Committee so far.

Power Alcohol and Molasses Production

Molasses is a very important and valuable by-product of the sugar industry and output of molasses in India as far in excess of the present consumption. So far mainly due to official indifference and lack of sympathy, the Power Alcohol industry which can convert a large quantity of molasses into useful alcohol fuel for motor cars and trucks has not developed in India. Only at the eleventh hour when there was acute shortage of petrol in the country, was attention turned seriously to the potentialities of power alcohol as a substitute fuel which can be mixed with petrol profitably. Sugar interests have been urging since long the development of this useful industry but no concrete steps have been taken on an adequate scale. Consequently we have only a few small distilleries for the production of rectified spirit and power alcohol from molasses. The wastage of molasses for lack of demand has been tremendous in India. At present they are

being used for refining tobacco, for rectified spirit, for power alcohol production in small quantities in U. P. compared with the huge production, etc. But large quantities are being wasted at the mills for lack of demand and some are used as manure at low prices. If the power alcohol industry would be adequately developed in this country, it will not only result in a drop in imports of petrol and saving of money, but also give stability to the sugar industry, due to the profitable utilisation of this by-product. This problem deserves the earnest attention of the industry as well as the Government in the post-war planning schemes.

Production of Molasses in India during 1943-44 Season

The production of molasses in India during 1943-44 directly from sugar mills amounted to 4,38,700 tons against 3,69,100 tons in the previous year. The recovery percentage was 3.61 against 3.54 in the last season. The U. P. alone produced more than 50 per cent of the total output of molasses by sugar mills, viz. 2,62,600 tons against 2,12,300 tons in 1942-43, while Bihar produced 68,300 tons in 1943-44 against 74,400 tons of molasses in the previous year. Bombay produced 28,700 tons and the Indian States about 46,700 tons. The production of molasses by gur refineries in India in 1943-44 amounted to 2,680 tons against 7,600 tons in the previous year. The recovery percentages were 64.60 and 61.8 respectively for the two years.

For the season 1943-44, the total production of molasses *from all sources*, therefore, amounted to a huge figure of 4,41,380 tons. Compared with this huge production, the demand for power alcohol and rectified spirit manufacture was very low and poor. The chief complaint in India has been that the large surplus production of molasses is being annually wasted without any beneficial use and that the disposal of the enormous quantities produced is becoming a nuisance problem for mills from year to year. Since only a small quantity of molasses is used for refining tobacco and power alcohol and as no other profitable means of employment have been so far adopted, a large quantity of molasses is used as manure and other unprofitable uses at cheap prices. The wastage of molasses in this country is thus very large.

U. P. Power Alcohol Act, 1940 (*Act VIII of* 1940)

In August 1940, the U. P. Government promulgated the Power Alcohol Act controlling the production, supply and distribution of power alcohol in U. P. as fuel with petrol. Some of the recommendations of the Joint Power Alcohol Committee of U. P. and Bihar,[1] (1938) which were put in cold storage for a considerable time, were given effect from April 28, 1941 by the above enactment. Orders were issued at once for the enforcement of the Act in the districts of Bareilly, Bijnor, Budaon, Pilibhit and Chandausi, Amroha tehsils of the Moradabad district. The proportion of alcohol to be mixed with petrol as fuel for motor cars was fixed at 1 : 4 or 20 parts of alcohol with 80 parts of petrol to make a unit of power fuel. The Act was subsequently extended to other areas and the price of alcohol was fixed at 6 annas per gallon in the beginning. To increase production, licenses were granted to the Kesar Sugar Mills and the Oudh and Hindusthan Sugar Mills jointly for the manufacture of power alcohol from molasses by importing plant and machinery from abroad. Following the grant of licenses, these

[1] The Editor of this *Annual*, Mr. M. P. Gandhi, was a member of this committee. Its recommendations are summarised in the 1939 *Sugar Industry Annual*.

mills placed orders in the United States for the delivery of the necessary plant. But it appears, due to lack of necessary priority in shipping and support of the Government to back the orders as an urgent war measure, deliveries in respect of these orders have not yet been made and the attempt to augment production have proved abortive.

As pointed out, in the previous *Annuals*, both the Central and the Provincial Governments have been dilatory and unhelpful in the matter of production of power alcohol and no progress was made in regard to actual production of power alcohol while other countries developed power alcohol production, despite their vast petrol resources. The present war and the shortage of petrol suddenly overtook the country by surprise and the authorities realised the need for development of power alcohol only when the crisis came on the neck and the internal transport situation became disorganised. Then it was too late to secure immediately any machinery and plant for production and so the existing distilleries alone were to be asked to go full speed ahead and production was stepped up, though to a very limited extent. The American Technical Mission headed by Dr. Grady was reported to have strongly recommended the production of power alcohol to relieve the pressure on transport. It was believed that the necessary plant would be imported under Lease-Lend on the strength of the recommendation, but later on it became clear that nothing came out of it and all the high hopes aroused by the visit of the Mission were belied.

It is also reported that Distilleries Co. Ltd. of London had prepared in March 1943 after a close enquiry a detailed report and recommended the construction of alcohol distilleries in India of standard design, each one million gallons unit capacity of power alcohol per annum or 3,000 gallons per day. The plan proposed would operate under the *Melle Fourth Technique Process* for the production of alcohol direct from molasses wash. It was stated that subject to suitable priority being made available from the Government the whole project for the construction of the six distilleries could be executed and operated in less than two years. But it is a pity that no attempt has been made in this direction even, and one of the main recommendations of the Tariff Board has not been implemented.

Power Alcohol Act in Bihar Passed in 1942

The Bihar Government following the lines of the U. P. Government and the recommendations of the Bihar Power Alcohol Advisory Committee's Report passed in 1942 the Bihar Power Alcohol Act but for the same reasons mentioned above, no progress worth the name was recorded.

Power Alcohol in Hyderabad State

The Nizam Government also passed the Power Alcohol Act applicable in their territory and enforced the use of alcohol as fuel. The Power Alcohol Factory started by the Government and equipped at a cost of Rs. 8 lakhs has been working well from the last two years producing nearly 3 lakh gallons of power alcohol a year and utilizing 5,600 tons of molasses.

Power Alcohol in Bombay and Other Areas

The Bombay Power Alcohol and Petroleum Act of 1942 received the assent of the Governor-General in December 1942 and came into force at

once. Use of power alcohol as admixture with petrol was compulsorily enforced in some areas in Bombay. One of the sugar mills in Deccan was equipped with the necessary plant and is expected to produce about 30,000 gallons of power alcohol per month.

Other Provinces like Madras, Bengal, the Punjab and some Indian States also took steps later on gradually to introduce compulsory use of power alcohol and rectified spirit with petrol as fuel.

Government Dilatory in Encouragement of Power Alcohol Production

The Government of India had been hopelessly negligent in encouragement of power alcohol manufacture in India before and in the early stages of the war. If only arrangements had been made in time for stepping up production of power alcohol as a substitute to petrol, there would not have been such a chaotic disorganisation in internal road transport as was witnessed in 1943 and 1944. Even the sugar industry would have been greatly facilitated by the running of lorries for the conveyance of cane. After meeting the internal miscellaneous demands, more than 4 lakh tons of molasses are available in this country, which, if utilised, will produce no less than 22 million gallons on the basis of one ton of molasses producing 56 gallons of power alcohol. Nearly Rs. 65 lakhs could thus be saved within the country, without affecting the excise revenue. But unfortunately the Governments lacked foresight and pursued an indifferent attitude for developing this valuable source, despite the persistent appeals of the sugar industry.

Even now it is not exactly known to what extent the Government of India have given, under war-time stringency for petrol, encouragement to the increased production of power alcohol. But from the statements made from time to time on this subject by official spokesmen, we will not be far wrong if we characterise the policy as nugatory and progress achieved in this direction from the last three years as inconsequential and infinitely below reasonable expectations of the industry and the public. Only production of rectified spirit by the distilleries was stepped up with seriousness and consequently more rectified spirit was produced in 1943-44.

In March 1943, in reply to a question in the Central Assembly, Mr. Mackeown, Joint Secretary to the Supply Department, stated that the Government of India had asked the Indian Supply Mission in Washington to endeavour to secure two power alcohol plants on Lease-Lend terms, and that the Government would not attempt to import any more plants from abroad. The reason for this decision was stated to be that detailed enquiries had revealed that any attempt to secure and instal imported plant would not yield substantial results within a short period to meet the urgent war needs and that after the emergency petrol could be easily and cheaply secured without need of power alcohol.

Later on Sir Azizul Haque made another reassuring statement about production of power alcohol in the country in the Assembly on 15th November 1944. The Commerce Member stated that every encouragement would be extended for the development of power alcohol industry in the country. He said that there were four power alcohol plants in operation at that time in the country and their total capacity would be between $1\frac{3}{4}$ to $2\frac{1}{2}$ million gallons per year. He also revealed that orders were placed for power alcohol plants only in September 1944 in America but the plants had not been released by the American authorities.

Referring to the subject again Sir A. Ramaswamy Mudaliar, Supply Member, in reply to Mr. Manu Subedar on the 22nd March 1945 stated in the Assembly that distilleries for the production of power alcohol and high strength rectified spirits, against licenses issued by the U. P. Government, were being erected at six places in the U. P. They are at Shimbhaoli, Shamli, Hargaon, Gla, Captainganj, and Deoria. He added that the Daurala Distillery came into production in 1944 but the power alcohol column was not yet in full operation. He assured the Assembly that the question of developing power alcohol production in India would be investigated shortly by a panel under the Planning and Development Department.

Power Alcohol and Rectified Spirit Output in 1944-45

In 1940 some prominent sugar factory owners prepared their plans for the production of power alcohol in India at their sugar factories in U. P. Orders for plants were placed in America, but U. S. A. Government did not release material for fabricating the plants and as a result thereof the plants could not be installed. Not being discouraged by this, some of the enterprising parties undertook to fabricate plants in India. By the time this is going to press, reports have been received that some of these plants, including one at Hargaon, have been successfully put into operation.

The peace time requirements of petrol are approximately 2,25,000 gallons a day, of which 20 per cent or 45,000 gallons could be substituted by power alcohol. If only a few more factories could be set up, India's dependence on petrol from abroad could be reduced to the extent of 20 per cent which is, of course, a considerable gain.

During the year 1944-45 the question of introducing high standard rectified spirit as a substitute for petrol engaged the attention of the U. P. Government and a scheme was prepared by Mr. Shanker Prasad, Excise Commissioner, U. P. The use of rectified spirit as fuel for motor vehicles necessitates slight changes in the carburettor jets and a proposal to introduce it in the case of lorries in the first instance was approved. The opening of three new distilleries in U. P. will enable the supply of about 1,00,000 gallons of high standard rectified spirit fit to be used as a substitute for petrol. Five more distilleries are expected to be erected for the production of rectified spirit in 1945.

Production of rectified spirit, let us hope, is only a temporary measure. The real and permanent solution lies in making absolute alcohol and mixing it with mineral petrol in a fixed proportion. As a matter of fact, exclusive use of alcohol, and that too of a lower strength, though successfully demonstrated, is not meeting the satisfaction of heavy vehicle-owners, who are compulsorily made to use the same. At the earliest opportunity, all the production must necessarily be switched on to absolute alcohol and the admixture with petrol brought into force, as provided in the U. P. Act.

Problems of Power Alcohol Plant Erection

In erection of power alcohol plants in the provinces some facts should be taken into account. The location and size of the distilleries are two important considerations. Location of distilleries centrally in relation to sugar factories will, to a large extent, minimise the trouble and avoid

wasteful expenditure on transport. The problem of small units of manufacture *versus* bigger units is also another which requires consideration. It is a moot point whether small units should be allowed to be set up in factory areas, each producing rectified spirit out of its own molasses or whether molasses should be pooled and bigger units which would be more economical in working should be allowed to be put up in centrally-located places. The Joint Power Alcohol Committee which reported to the U. P. and Bihar Governments on the manufacture of power alcohol stated that it would be more economical to have large-sized plants in centrally-situated localities rather than each factory having a small unit of its own. In planning and developing the production of power alcohol in India, these two factors of location and size should be carefully borne in mind and plans worked out according to local conditions in each Province.

All-India Provision for Fuel Alcohol—Fuel Alcohol Order, 1943

On February 20th, 1943, the Government of India published in the *Gazette of India* the text of the Fuel Alcohol Order making provision for the use of power alcohol as a motor fuel on an All-India basis. The Order was made applicable without prejudice to the provisions of the U. P. Power Alcohol Act, the Bihar Power Alcohol and other existing acts of similar nature in other provinces. This Order enabled the various provinces intending to produce power alcohol and rectified spirit as motor fuel within its jurisdiction to fall in line with the provinces of U. P. and Bihar and make the necessary by-laws and regulations for the use of power alcohol as motor fuel.

The main noteworthy feature is that the Order is applicable not only to anhydrous power alcohol of 99.5 per cent purity but also to rectified spirit of not less than 95 per cent purity. It appears to be the intention of the Government of India that for mixture purposes rectified spirit could be used in the same way as power alcohol.

Fuel Alcohol Control in U. P.

During 1944-45 the U. P. Government wanted to step up production of rectified spirit in preference to power alcohol as stated above. Therefore they encouraged indigenous fabrication of parts for distilleries for producing rectified spirit. They extended facilities for establishing stills, and fixed control price of rectified spirit at Rs. 1-8-0 per gallon.

By a notification dated 10th March 1945, the Draft Rules concerning power alcohol were published regulating the price, production, distribution and quality of fuel alcohol. Fuel alcohol, according to the rules, is defined as denatured rectified spirit which is capable of and destined for being used as motor fuel after it is issued from the distillery. Distilleries are asked to sell fuel alcohol only to the Government who would arrange the sales under license; it should be denatured with one volume of kerosene with 100 volumes of fuel alcohol before it is issued from the distillery; the price at which it shall be delivered to the Government is fixed at 14½ annas per gallon ex-distillery at all distilleries, exclusive of Central Excise duty; the price at which the distributing licensees, viz. the oil companies shall sell to consumers ex-depot exclusive of any provincial sales tax, varies from Rs. 2-3-6 to Rs. 2-5-6 a gallon according to the location situated. The dif-

ference between the ex-distillery price and the selling price at depot is to include the Central Excise duty of Re. 1 per gallon.

The Burma Shell Oil Company has been entrusted with distribution of power alcohol which is purchased on Government account. During 1943-44, 2,28,000 gallons of power alcohol were produced in U. P. and supplied in tank wagons.

Molasses Control in U. P.

In order to ensure sufficient supplies of the raw material, the U. P. Government placed restrictions on the movement of molasses by rail to any station in U. P. or outside except under permit by an Order issued on September 9th 1942. The Order also provided for the fixation of minimum prices at which persons holding molasses were to sell to the distilleries in accordance with the directions issued by the Excise Commissioner of U. P. The Order was intended to ensure that adequate supplies of molasses were made to distilleries for manufacture of power alcohol and rectified spirit for use as motor fuel. The full text of the Order was given in our 1942 *Annual*. (See 1942 *Annual*.)

By a subsequent amendment issued on 13th March 1944, the United Provinces Molasses Control Order was amended in such a way as to rectify the mistakes of omission and to enlarge the scope so as to include all people including the dealers to come under the control order. The prices of molasses which were fixed previously very low were also revised for the different varieties.

The Bihar Government issued a similar order controlling molasses prices and disposal by a notification on the 26th May 1943, restricting movement and sale within the Province. The Bengal Government also passed its own Molasses Control Order.

No Central Control Over Molasses and Defects of Present Control

The total ban on the movement and disposal of molasses in U. P. and Bihar naturally met with considerable opposition from the members of the industry, as it was pointed out that with the very slow progress made in regard to production of power alcohol, there was no need for storing all the molasses. The requirements of the distilleries were only about 50,000 tons while the total production of factories alone exceeded 3 lakh tons a year. The difficulty in respect of storage and the low prices fixed for molasses were the subject of strong criticism and it was only after numerous representations that the authorities were persuaded to issue permits for the disposal of the unwanted molasses. Movement by rail entailed difficulties due to the shortage of special tank cars and packed supplies became impossible owing to the scarcity of containers and the cost of packing.

Speaking at the Sixth Ordinary General Meeting of the Indian Sugar Syndicate, in 1943, Lala Karamchand Thapar criticising the Molasses Control Order remarked that 'beyond the irksome control over unwanted molasses very little has been achieved by the Government'. He said: "We are not aware whether the production of rectified spirit has been stepped up at all to the extent anticipated although we deeply feel the irksome control that has been imposed upon the entire production of molasses as though the whole of our stocks will be converted into spirit".

At the Twelfth Annual Meeting of the Indian Sugar Mills Association, in September 1944, Mr. Lalchand Hirachand, the outgoing Chairman, in his address commenting on the Order observed thus : " In my opinion the control is not only not necessary but has put factories to undue hardships and I would, therefore, urge the two Governments (U. P. and Bihar) to withdraw the control orders in the best interests of the industry ".

At the same meeting the Indian Sugar Mills Association adopted the following resolution :—

> "This Association regrets that the Government of U. P. and Bihar have promulgated Molasses Control Orders to control the movement of molasses although even the elementary conditions necessary for the control of a commodity, such as shortage in supply or an abnormal rise in prices, etc. are completely absent. This Association has all along been opposed to the institution of any control on molasses and urges the two Governments to withdraw the Molasses Control Orders forthwith."

Referring to the same subject again at the Eighth Annual Meeting of the Indian Sugar Syndicate, Mr. Thapar pointedly remarked that 'control over vast quantities of molasses amounting roughly to $2\frac{3}{4}$ lakh tons in a normal season, 85 per cent of which are not required by the distilleries, has subjected factories to all the defects of control with no counterveiling benefits '.

The chief complaint against molasses control was that there were no restrictions on the sale, price and distribution of molasses outside the provinces of U. P. and Bihar. There is no central control over molasses and naturally U. P. and Bihar are unduly penalised by control. The result of absence of central control is that while prices in other provinces are high, the U. P. and Bihar mills are compelled to sell at low prices and derive no benefit from the existing high prices in other provinces. Another factor is that large surplus stocks are lying at the mills in U. P. and Bihar and due to lack of adequate storage facilities, the restriction over movement creates difficulties. The levy by U. P. and Bihar Governments of an export duty of Re. 1 as surcharge on all exports from the provinces acted as a damper for disposal in other areas and this was resented by the industry as it becomes difficult and costly to export molasses.

The absence of central control over molasses is a serious defect resulting in injustice and hardships to the factories in U. P. and Bihar. This defect must be removed and only those mills which are near distilleries should under a well-regulated system be asked to provide molasses in adequate quantities to distilleries for power alcohol production and the remaining huge quantities should be disposed of in an orderly way in other areas and at economic prices. Otherwise control over the 'unwanted molasses' should be done away with.

New Uses for Molasses—Manufacture of Food Yeast

Among the various uses to which molasses are put, production of yeast, a food product of high nutrition-value is one. *The Australian Sugar Journal* says that 'yeasts extracted from sugar molasses contain the essential amino acids in kind and proportion very similar to those found in good mixed diet'. It is learnt that Colonial Food Yeast Ltd. is establishing a yeast

factory adjoining the sugar mills in Jamaica. The Government of India is also reported to be planning to build a food yeast plant in India. According to Mr. A. C. Thaysen of the Department of Scientific and Industrial Research in the United Kingdom, the really nutritive part of meat, eggs, fruit and meat is found by British experiments of food yeast from molasses. The production of food yeast from molasses shows a new use for molasses and experiments in this direction are worth pursuing. If a portion of India's vast molasses production can be converted into food yeast of valuable vitamin content, it will be a great asset not only to the national diet improvement but also to the sugar industry whose production of molasses is largely wasted now, in an uneconomic manner.

Use of Molasses in Land Reclamation

Dr. Nil Ratan Dhar, Deputy Director of Public Instruction in U. P. and head of the Chemistry Department of the Allahabad University, made some valuable researches on the utilisation of molasses. He discovered that molasses could be utilised for reclamation of waste land. In a lecture at the Allahabad Agricultural College, Dr. Dhar suggested the use of molasses mixed with press-mud for reclamation of alkali land. He said that molasses contain about 60 per cent carbohydrates, 2 per cent calcium salts, potash phosphates and some free acids. Citing the case of Mysore where molasses were used in rice fields, Dr. Dhar said that the Mysore Government obtained 1,200 to 1,800 lbs. of rice per acre on alkali land reclaimed, whereas the crop had failed completely before. They were hopeful that molasses could be used for reclamation of waste land. Molasses with press-mud, another by-product of the sugar industry, could be used for preventing soil-erosion. Such new uses for molasses will necessarily increase its value as well as price in future as and when they come into vogue.

New Uses for By-Products of Sugar Factories

In an article contributed recently by R. C. Srivastava and others of the Imperial Sugar Technology, some new uses for press-mud were discovered. It was found that sulphitation press-mud can be used for (*a*) the preparation of activated carbon, (*b*) preparation of a dyestuff, (*c*) as fuel. The carbonatation press-mud is shown to yield good filter-aids. Among the new uses discovered for the sulphitation and carbontation press-muds are (1) a patent for fire extinguishers, (2) metal-polishing powder, (3) Board chalk, (4) Putty-paste for slate colour and (5) Tooth-powder. It is a good sign that research is being applied more and more for the discovery of new uses for what were hitherto thought as waste products to be thrown away.

By-products and Auxiliary Industries—Rayon and Plastics

Bagasse is one of the by-products of the sugar industry. Due to the costs of transport and disposal, mills have been making use of it as fuel and in the coal shortage days more of it is used as fuel. It has been found out that artificial silk or rayon can be manufactured from bagasse. The development of rayon manufacture from bagasse will establish another by-product industry in India and our dependence upon imported silks will be less. Recently the *Journal of Scientific and Industrial Research* has mentioned of the possibilities of producing plastics from bagasse which is not now put to any use. These revelations are, indeed, helpful and science

and research should be mobilised for better exploitation of its possibilities for industrial purposes.

Confectionery and Biscuit Industry

Another direction in which there promises to be scope for development in India is the establishment of a confectionery and biscuit industry. India imports now confectionery and biscuits from other countries despite the fact that she has valuable raw material and an unenviable sugar industry. It is possible to develop the confectionery industry in India and in the post-war years some industrialists may explore this line profitably. Sugar is used for the manufacture of biscuits and confectionery, and it is available easily. Therefore the establishment of these auxiliary industries of the sugar industry offer innumerable new outlets and demands for sugar.

LAW AND LEGISLATION DURING 1943-44

Sugar and Sugar Products Control Order 1943

By a Notification dated 10th October 1944 the Sugar Controller extended the scope of the above legislation by including an additional clause in the original order for making forfeiture of the quantity of sugar together with packages in respect of which any offence is committed under the Sugar Control Order. Power is vested in the trying court to do so if it is satisfied that the offence has been committed. The Gur Control Order is also similarly widened in scope by the inclusion of forfeiture clause for offences committed.

Sugar (Temporary Excise Duty) Ordinance 1944

Simultaneous with the increase in sugar prices, the Government issued an Ordinance imposing (a temporary) excise duty of Rs. 1-7-0 per maund on old stocks of sugar held by mills and dealers on 21st October 1944. The Ordinance is meant to take away the profits that the mills and traders would otherwise make on the old season's stocks, when the prices have been increased for the new season's sugar, to compensate for the increased price of cane principally.

Protective Duties Continuation Act, 1944

The Protective Duties Continuation Act, 1944, to extend up to 31st March 1946, the Protective Duty leviable on sugar imports was passed on 26th April 1944, by an Ordinance of the Governor-General.

War Risks Insurance (Extending) Ordinance, 1944

By an Ordinance issued on 11th March 1944, the Government of India extended the period of the compulsory insurance of mills under the War Risks (Factories) Insurance Scheme upto the end of 31st March 1945 but the premium paid was reduced from 2½ per cent to 2 per cent. As the danger of war risk was practically over the sugar mills in the interior, particularly in U.P. and Bihar, wanted the abolition of the compulsory insurance system. Even after the end of March 1945, the War Risk (Factories) Insurance Act was extended for a further period of six months at the reduced premium of 1½ per cent on the block value.

U. P. Sugar Factories Control Rules Amended

By a Notification dated 28th November 1944, the U.P. Sugar Factories Control Rules were amended for the appointment of a Technical Committee to advise the Government and the mills. A special committee of six members were appointed to aid and advise the Government on technical and technological matters, pertaining to the sugar industry.

None-too-enviable Position of Sugar Companies re: Profits

The low prices fixed for sugar and the stringent control measures enforced from the last three years limited the scope and margin of profits in the sugar industry. From a review of the general position and the balance-sheets of a number of sugar mills, it will be found that the sugar industry has enjoyed little prosperity even during the war-period. Despite shortages of raw materials, spare parts, and various difficulties like high labour costs, mills concentrated on increased production but the profits made by them were not large. It must be stated also that unlike other industries, e.g. cotton, coal, steel, which have had a prosperous period during the war, the sugar industry has not been able to distribute satisfactory dividends and to build up any reserves for any emergency. This is a very important matter which the Government should remember in any post-war policy affecting this industry. The table on page 62 will show the dividends of a few sugar companies from 1935 to 1944.

Increase in Sugar Prices recommended for 1945-46

We also suggest that when prices for sugar are fixed for the 1945-46 season, the Government should adopt a little more liberal attitude, particularly because several factories made no profits in 1944-45 owing to the short-season which led to increased manufacturing costs.

Sugar Industry—A Big National Asset

During war-time, there was a progressive increase in the consumption of sugar in India and the sugar industry was able to stand the storms and stresses of an exacting world-war. The abnormal demands made on it with a short notice for preparation and full equipment were successfully met for the most part and the industry played a significant role in the war effort and in the civilian economy. Despite the hard and long hours of work by the mills in the cane-crushing season with practically no replacements for the past four years and absence of regular and adequate supply of raw materials, like sulphur, the industry has acquitted itself creditably, and has served the public well by producing maximum quantities of sugar, which was unavailable from any where else. The emergence of the Indian sugar industry through the war into a major position is an event of world-wide importance. The Indian Sugar Industry furnishes an excellent example of the success of the policy of protection, and given proper care and attention, it will play a still more important role in the future economy of the country, by a steady and well-dispersed expansion, which we consider, is indispensable, looking to the necessity of a larger production of energising foods like sugar to meet the requirements of improved standards of living and nutrition which are expected to follow in the post-war period.

Capital and Net Block of Sugar Companies, and Dividends since 1935

Name of Sugar Factory	Paid-up Capital with Debentures*	Net Block	DIVIDENDS %									
			1935	1936	1937	1938	1939	1940	1941	1942	1943	1944
	Rs.	Rs.										
Balarampur ...	28,00,000	23,94,169	10	10	3¾	2½	Nil	Nil	Nil	Nil	5	5
*Basti ...	18,00,000	18,94,611	15	25	15	15	12	5	10	20	30	20
Belsund ...	20,49,950	14,47,872	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
Belapur ...	37,59,800	36,07,486	24	16	14	14	20	20	14	12	18	18
*Bharat ...	6,25,000	4,91,832	Nil	7½	10	5	5	Nil	5	7½	12½	10
Buland ...	24,00,000	22,69,814	...	5	6	11¼	11¼	12½	17½	22½	22½	25
*Carew ...	65,00,000	56,14,075	12½	12½	10	10	Nil	Nil	Nil	Nil	12½	10
Cawnpore ...	25,00,000	27,66,414	25	10	5	5	2½	2½	15	15	25	15
Champarun ...	18,00,000	19,47,896	10	20	5	5	7½	2½	15	15	30	20
Deccan Sugar and Abkari ...	23,60,000	31,02,528	35	20	10	10	10	5	10	...	...	......
*East India Distilleries & Sugar Factories ...	£314,780	£3,09,055	10	10	5	10	15	12½	10	...	...	......
Durbhanga ...	26,00,000	18,19,829	...	...	...	...	...	...	12½	10	25	10
*Deoria ...	8,99,452	10,33,906	...	...	...	5	5	Nil	5	7½	...	......
Ganesh ...	8,00,000	8,25,407	Nil	10	5	5	2½	Nil	12½	...	...	......
Ganga ...	8,52,841	9,36,912	...	...	...	9	18	12	20	20	...	......
*Gaya ...	9,84,200	11,27,452	8	8	8	8	8	8	8	...	8	8
*Mahaswastika ...	6,50,000	5,42,176	...	...	...	Nil	Nil	Nil	...	...	...	......
Modi ...	12,00,000	16,22,542	10	9	10	7	12	12	15	...	...	......
*Mysore ...	30,79,280	21,79,280	11½	15	10	15	15	20	20	20	20	20
*Nawabganj ...	19,46,030	19,83,186	10	10	5	11	10	5	12	...	20	15
New Savan Sugar ...	11,00,000	8,00,000	Nil	10	Nil	Nil	Nil	Nil	10	7½	12½	15
*New India ...	14,12,700	12,68,372	...	...	...	Nil	Nil	Nil	Nil	Nil	...	...
Punjab ...	11,93,642	26,17,247	15	20	15	15	6	Nil	10	10	10	10
Purtabpore ...	15,00,000	16,02,376	Nil	7½	Nil	Nil	Nil	Nil	5	Nil	12½	7½
*Ramnugger ...	24,00,000	28,99,038	...	...	...	Nil	Nil	Nil	Nil	...	...	......
Raza ...	15,00,000	20,28,609	6	10	7½	12½	12½	12½	17½	22¼	22½	25
*Ryam ...	10,97,400	7,10,917	15	10	Nil	Nil	Nil	Nil	Nil	5	20	15
*Samastipur ...	17,19,000	11,94,577	Nil	Nil	Nil	Nil	Nil	Nil	Nil	5	10	7½
*Shree Sitaram ...	10,95,462	10,20,378	6¼	Nil	10	10	...	5	7½	12½	15	......
*Sitalpur ...	13,01,310	12,05,659	Nil	8	Nil	2½	2½	Nil	Nil	5	6¼	6¼
*South Bihar ...	13,25,000	16,79,861	12½	15	15	25	10	9	15	10	...	......
*Upper Ganges ...	11,99,900	10,38,095	Nil	5	7½	7½	10	Nil	17½	15	15	......

* Only those marked with asterisks include Debentures.

PART II

PRESENT PROBLEMS OF THE SUGAR INDUSTRY AND ITS FUTURE PROSPECTS

NEED FOR CONSOLIDATION AND RE-ORGANISATION OF THE INDUSTRY

The foregoing pages have been devoted to a detailed analysis and survey of the working of the sugar industry in India during the last one or two years and we have passed under review the salient features that governed the industry. Having presented a general picture of the progress of the industry, we will refer in the succeeding pages briefly to the post-war plans that are now in the making, with particular reference to the sugar industry and stress on the vital need for consolidation and re-organisation of the industry with a view to ensure production of cheap sugar and *gur* in increased quantities in the years to come. The need to conserve and mobilise all available resources for re-organisation and consolidation of the sugar industry, at the present time when the war in Europe has happily come to an end and fresh outlets for export of sugar are in the offing, cannot be too strongly emphasised. We even venture to state that it may become possible for India to compete, if necessary, with other sugar producing countries of the world, in due course on equal terms in the international sugar markets, if the industry is consolidated and re-organised on modern lines and the costs of production of sugarcane and sugar are considerably reduced, by embarking upon short-term as also long-term plans of comprehensive research.

In the previous *Annuals*, we referred to the vicissitudes of the sugar industry in the early stages of its development for over a decade and expressed the opinion that with the advent of the World War II, the Indian Sugar Industry had left behind its worst period of trials and tribulations. By its magnificent contribution during the last four years to the unexpected and large demands for sugar on the military and civilian accounts, it showed its remarkable powers of adjustability and resourcefulness to meet such increased demands occasioned by the outbreak of war. By its enormous contribution to the Allied cause, it has won recognition worthy of its past record and entitled itself for a special consideration in the post-war period.

The immediate need of the hour is the replacement of the over-worked and worn-out parts in machinery and equipment by regulated imports of the urgently needed mill-stores, machinery, and other requisites for the uninterrupted and effective working in the future period. Necessary priorities for imports of machinery and mill-stores should be granted by the authorities and every assistance, technical or otherwise, should be made available to the industry in this respect. The recently constituted Indian Central Sugarcane Committee, we trust, will be able to take suitable steps to place the industry on a very sound footing by tackling the main problems of consolidation and re-organisation now facing the industry. Improvements in the methods of cane cultivation, introduction of new as also early and late ripening varieties of cane in the gate-areas of the mills to make cane available continuously for a longer crushing season, and improved technical efficiency will result in an increase in the recovery percentage and output of sugar. By-product industries have also to be fully developed to enable cheap pro-

duction of sugar. Power alcohol production from molasses should be developed immediately. Above all, there should be a co-ordinated all-India policy for development and extension of the sugar industry. The Provincial and State Governments have necessarily to play an important role in the evolution and working of such a co-ordinated and single all-India policy as regards sugar. The concentration of the sugar industry in U.P. and Bihar created a bottleneck in the war period owing to the lack of transport facilities. The only means of overcoming transport difficulties and high costs of freight as well as the evils of over-concentration of mills in any particular area, are the positive encouragement to set up more mills in Bombay, Bengal, Madras and other Provinces which are sugar deficit areas. Proper planning and development on natural and advantageous lines are the main problems of the sugar industry.

Sugarcane—Necessity of Improvement in Cultivation

The general conditions of sugar manufacture in India are peculiar and have hardly any parallel elsewhere. Mills in India, except in Bombay Presidency, do not generally produce the raw material, viz., the cane as they do in Java and other countries from their own extensive plantations round about the factories but they depend on a large number of agriculturists with tiny holdings of land independent of each other and working without any definite system, industrious but lacking in capital, in resources and in scientific knowledge and consequently incapable, in the absence of any guidance either from the Government Departments or from the factory owners, of making use of modern, up-to-date and efficient methods of cane-cultivation, crop-rotation, manuring, etc. *This is a very important factor which has* to be borne in mind constantly in a study of the problems of sugarcane and of agricultural improvements in India. In devising the various methods for improved cultivation of sugarcane varieties, care should be taken to see that the small cultivators do really understand and practice the methods and quickly benefit by them. Improvements in the cultivation of better cane varieties should be planned, with a view to bring down the cost of cultivation, and to cheapen supplies of cane to factories.

Extension of Cane Area or Improvement?

A glance at the recent figures of the area under cane cultivation in relation to the requirements of sugar and *gur* in India will show that at present we have a sufficient acreage under cane cultivation to meet the full requirements of the sugar industry. While every effort should be made to maintain the present level of acreage under sugarcane and devise methods to do so, we feel that on a close examination there is no necessity of increasing the extent of acreage under cane crop. The area under sugarcane in 1943-44 estimated to be 4,113,000 acres is about 2 per cent of the total cultivable area in India and approximately 35 per cent of the sugarcane area in the world. Therefore, it is essential to improve the quality of cane as also the yield per acre with a view to lower the cost of cultivation in preference to extension of the area under cane in the present circumstances.

Diseases in Cane and Pests Must be Eradicated

In order to improve the yield as well as the quality of sugarcane it is imperative to eradicate the diseases in cane and pests. It is a matter of common knowledge that in respect of yield of cane per acre, its sucrose-

content or average percentage of recovery of sugar from cane, we in India are still behind many other sugar producing countries, viz. Java, Cuba, Hawaii and the Philippines. Unless we are able in a short time to effect considerable improvements in this direction, with the aid of organised research, it will not be possible for us to stand the vigorous competition of other advanced sugar producing countries in the post-war world. Whether it is due to plantation of cane without a scientific system of rotation of the cane crop, extended ratooning, absence of fertilisers and manure, lack of plentiful water supply either through irrigational canals or tube-wells, and diseases and pests—or a combination of any of the above factors—the fact is that our cane crop at present is poor both in respect of quality and yield per acre. *The direct consequences of this are high cost of production of cane, the low yield and sucrose content of cane and a great national loss, valued at millions of rupees to the agricultural community in the country.*

Great damage is occasionally done by insect pests and diseases in various Provinces. The sugarcane crop is easily susceptible to diseases. In some years the harm caused by pests and crop diseases is so widespread that it materially alters the fortunes of the cultivators and results in considerable reduction in output of sugar and yield of recovery percentage. For instance in 1939-40 there occurred widespread outbreak of Red Rot, and Wilt in the cane-growing belt of Bihar and it appeared that infection was the worst where the largest areas were kept under ratoons. The Bihar Government issued a press note pointing out the great danger of infection to cane crops from ratoons. The Imperial Council of Agricultural Research also issued a note regarding the Pyrilla Pest and observed that the best time to prevent Pyrilla damage was early in the year when sugarcane plants were generally young and not high or leafy to prevent labourers from going into the fields. It was stated that Pyrilla being a recurring pest coming in every 4 or 5 years, widespread publicity should be given amongst sugarcane growers and efforts made to collect and destroy immediately all leaves so affected and to avoid ratooning more than once.

Education of Cultivators by Demonstration of Improved Methods

Apart from tackling by special means the problem of pests and diseases, there is a great necessity of undertaking other measures which would bring home to the cultivator the desirability of effecting improvements in the conditions of cultivation of cane. The average cultivator in India is hardly aware of the latest improved methods of cultivation or manuring or rotation of crops, or selection of suitable varieties to the soil, and the introduction of cross-breeding and hybridisation. He carries on in the traditional style from year to year unmindful of the revolutionary developments in other lands and unaffected by the possibilities of improving his lot. Industrious but having no capital and implements, he works hard but the results have been poor compared with other countries. Improvement in quality of cane grown on the fields and reduction in the costs of cane cultivation are two important problems that face the agriculturist, the Government and the industry at present. In view of its importance it is the duty of the Government to devise suitable means of imparting instruction in modern methods of cultivation to the ryot and to make available to him the fruits of organised research with a view to improve his economic condition, and to establish the industry on a sound and firm basis. Although it is satisfactory to note the work done in this connection by the Sugarcane Research Stations at

Coimbatore, Shahjahanpur, Muzaffarnagar, Karnal, Padegaon in the Deccan Canal area, Pusa, Dacca, Bangalore, Hyderabad and many other places and although improvements have slowly been effected in quality of cane grown in various Provinces, we feel that the time has definitely come when we should redouble our efforts to establish more intimate contact with the cane-cultivator and to initiate him into modern methods of better farming by actual demonstration. For this purpose it is essential to establish a series of demonstration farms and nurseries in all cane-growing Provinces and Districts in order that they may devote their attention to the propagation of cane of higher sucrose-content, of higher tonnage of cane per acre, of early and late-ripening varieties for extending the cane-crushing season, of increasing the yields by suitable crop-rotation, provision of a suitable supply of water for the crop, early detection and eradication of crop pests, etc. These demonstration farms and centres should serve as the arteries from where trained agriculturists would tour round the surrounding districts in order to show or demonstrate efficient methods of cultivation and manuring suitable to the soil in the various places and would also distribute good and improved seed amongst the cultivators. An important function of these farms would be to conduct researches as to the easy methods of combating cane diseases and pests. In addition to this, the Provincial Governments should also undertake other allied work of effecting improvement by educating the ryot in the use of irrigation water, by extension of the canal system and by affording necessary assistance in tapping subterranean sources of supply of water.

Improvements in Cane Crop Essential

The immediate necessities for the cane crop of India are (1) improvements aimed at lowering the cost of cultivation by increasing the tonnage per acre which in turn will give a better return to the cultivator, and (2) raising the quality, e.g. by producing varieties suited to various localities, having higher sucrose-content and greater resistance to diseases and pests so that they may command higher price from the sugar manufacturers.* The work of improvement on an organised scale should be undertaken in areas adjoining the sugar mills and such area gradually extended. The development of reserved and gate-areas of the sugar mills are likely to give immediate benefit both to the manufacturer and to the cane-grower. The ultimate success of the sugar industry hinges upon its ability to produce better and higher yields of sugarcane per acre since sugarcane forms the raw material of the industry and accounts for over 52 per cent of the cost of production. Improvements achieved in this field will be of lasting value and result in the cheapening of the prices of sugar. The extension of the present cane-crushing season of about 4 months to at least 6 to 7 months in the year by encouraging and promoting the growth of early and late ripening varieties of cane suited to the climactic conditions of the various areas of production, will be of great help, if achieved.

Valuable Educational Effect of Cane-crop

Although the total area under cane is only about 4 million acres, out of 277 million acres cultivated in India, the importance of the sugarcane crop is out of all proportion to the small area which it occupies. It has a valuable educational effect on the cultivator.

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* It is a pity that yet no suitable method has been evolved whereby the cultivator of superior quality of cane would get a premium, over the fixed minimum price of cane.

Sir John Russell, in his Report on the work of the Imperial Council of Agricultural Research in applying science to crop-production in India (1937) observed as follows: "The cultivator learns the advantages of modern varieties of crops, or fertilisers, of proper cultivation; the need to watch for plant diseases and to seek advice when he is in difficulties. The Agricultural Officer will have more chance of coming in touch with the sugarcane grower than he will with an ordinary small cultivator."

Imperial Council's Valuable Work for Sugar Industry

The Imperial Council of Agricultural Research as well as the Imperial Council of Sugar Technology at Cawnpore have done very valuable work in the field of development of the sugarcane crop. The programme of the Imperial Council's work can be stated under three heads: (*a*) the selection of cane better suited to the important cane-growing districts than the existing local varieties and improvement of their cultivation, (*b*) the improvement of local methods of making *gur*, and (*c*) the development of an advisory and research service for the factories. Investigations on cane breeding were done with considerable success at Coimbatore by Sir T. S. Venkatraman and that work is being now carried on, after his retirement, by other experts, like Mr. N. L. Dutt, who is in charge of the Coimbatore centre. For a detailed account of the work done so far, we would invite the attention of the readers to the small booklet entitled "A Summary of Some Practical Results of Sugarcane Research in India" published by the Imperial Council of Agricultural Research, published in 1940.

Improvement in Yield Possible in India

In spite of all the difficulties and handicaps peculiar to the Sugar Industry in India, there is no doubt that a good deal of improvement in yield per acre of sugarcane can be effected. The results at the Indian Research Stations are encouraging and from experiments at various places on factory farms, we find that higher yields have been obtained. Experiments conducted in the Deccan Canal areas and at Coimbatore and other places have also shown encouraging results. For instance, on the Ravalgaon Sugar Factory 50.5 tons of sugarcane per acre were produced compared with the 41.4 tons per acre by adopting only small improvements in cultivation, manuring and fighting the diseases. In a competition organised by the Maharashtra Chamber of Commerce in 1935-36 yields of 80 to 100 tons of cane per acre were obtained without any reduction of sugar. Experimental demonstrations in many other places have also confirmed the immense possibilities of improving the cane yields and the recovery percentages. As the present yields are very low in India, there is every possibility of increasing the yield by the use of rotation of crops and proper manuring. The supply of adequate manure is, therefore, an important problem and we welcome the efforts that the Government of India are making (in 1945) to establish a plant for the manufacture of ammonium sulphate in this country. We hope it will be possible for the factory to be set up near Dhanbad in Bihar to meet the needs of sugarcane areas (as also of crops) in respect of fertilisers.

Rotational Trials

The following-up of a cane crop too closely by another cane crop tends to exhaust the land and results in a low yield. Green-manuring the land with *San* previous to sowing the crop supplemented with additional manuring with nitrogen in the form of cake or ammonium sulphate at the time of planting has been generally found to be useful.

Ratooning

Ratooning is a subject on which there has been a good deal of controversy, particularly since there is some evidence that ratooning causes greater susceptibility to insect pests and other diseases. Canes differ to some extent in their performance as plant canes and ratoons. On the whole thin canes are better suited for ratooning than thick canes. The question of cane ratooning, which has acquired a disreputable significance, is receiving the attention of many experts and the problem has not been solved whether ratooning is good or bad. But the view seems to have been generally held that first ratooning is all right but subsequent ratooning systematically beyond one season is subject to attack by diseases easily and so does not find favour with the mills. Therefore, too much ratooning by ignorant cultivators in the hope of less work or better yield of crop should be prevented as far as possible by instructing them properly.

Position of the Industry in U. P. and Bihar

The high minimum prices for sugarcane now obtaining in U. P. and Bihar, although inadequate and unsatisfactory as they are compared with the prices obtainable from food crops during war-time, are certainly a considerable improvement over the previous year's prices. There is no doubt, however, that once the emergency period has gone, and inflation reduced, prices of commodities will come down in general and cane crop will also be affected. The present high prices may ultimately prove harmful in view of the fact that the industry would be driven out from U. P. and Bihar to some extent, by the stimulus it would necessarily give to production of sugar in other parts of the country at cheaper rates. We, therefore, invite the most serious consideration of the Governments of U. P. and Bihar, who are now controlling the industry in the provincial aspect to examine this matter and urge upon them the necessity of progressive development of improved methods of growth of cane resulting in reduction of cane costs, taking a far-sighted view of the matter, for the purpose of maintaining the predominant position of the industry and of the cultivators of cane in U. P. and Bihar. The high prices of cane, while certainly ameliorating the condition of the poor cultivators for the time being, have doubtless given a great stimulus to the development of the industry in other parts of the country and in the Indian States during the last six years. The U. P. and Bihar factories export 75 per cent of their output of sugar to other provinces and consequently the development of sugar mills in other provinces reduces the market for U. P. and Bihar. The U. P. and Bihar Governments should not forget that the main advantage of the industry in these two Provinces lies in the production of cane at a cheaper rate than in other Provinces, but if it is sought to be nullified by the fixation of higher cane prices, the levy of high cesses, and the imposition of other handicaps on the industry, the sugar industry may easily shift to or develop in other parts of India as a result of such avoidable stimulus. This will mean a great blow to the agriculturists in U. P. and Bihar where sugarcane is a cash crop of no mean size and significance. It will also adversely affect the position of the sugar industry in those provinces.

All-India Angle Essential in Development of the Industry

While the local and peculiar position of the sugar industry in U. P. and Bihar should be protected and conserved by suitable measures, in

any plans of further expansion, attention should be fixed upon the necessity of dispersal of the industry in other parts. The weaknesses revealed in the structure of the sugar industry as it exists at present and the difficulties of transport experienced during the war-time must serve as useful lessons in directing further development. We feel that the problem of development and planning of the sugar industry is a very serious one and unless the matter is viewed *not from a provincial angle as at present, but from an all-India angle,* and unless suitable measures are at once adopted for the regulation of the industry on an all-India basis, the future of the industry will be in jeopardy. The need is bound to be felt for an expansion of the sugar industry in other provinces, looking to the larger potential internal demand, following the introduction of new plans for improvement of the economic conditions of the people in India. When that comes about, other provinces must have their due share. Central control over the industry must imply central planning in the post-war period while taking into adequate account the special need and problems of any particular area. We, therefore, welcome the recent statement of the Government of India in their enunciation of post-war planning and inclusion of the sugar industry, along with other major industries, for unified central control, supervision and direction from the Government of India.

Cane Development in U. P. in 1943-44

A drive to organise the cane development work in U. P. in the light of the criticisms levelled from time to time against the scheme being worked out in 1938-39 was launched by the Provincial Cane Development Department. The plan which was formulated by Mr. R. L. Sethi, Cane Commissioner of the U. P. in 1940-41, sought to give a fillip to development work. Among other important items, the programme included the following items :—

(1) Development of compact zones round factories ;

(2) Selection and propagation of tested varieties ;

(3) Provision of suitable manures and tried cultural methods ;

(4) Zone trial ; and

(5) Systematic regulation of seeds.

The Cane Development Scheme was first started towards the end of 1935 with the help of contribution from the Government of India. The U. P. Sugar Factories Control Act provided for the reservation and assignment of areas and since 1938 that system has been in vogue.

The Province was divided into six ranges consisting of 95 zones for the execution of the Cane Development Scheme. These zones extended to 18,783 villages comprising 1037.59 thousands acres of cane during the year 1943-44. A Cane Growers' Co-operative Society was formed in each zone and the departmental activities were generally carried through the union. The policy of intensive development of sugarcane within 10 miles radius of the factories was continued. The aim of the Department was to rationalise sugarcane production and its supplies by securing at least 75 per cent of the normal crush of the factories from their gate areas.

A special feature of the development plan was the intensive working of 50 acre blocks of cane at different centres in the reserved areas of the factories under the close supervision of the field staff. These blocks form the nucleus for further controlled development of gate areas and serve as nur-

series for the supply of improved seed in different localities. The practical result of the scheme in the form of increased total crush will be available only after some years have elapsed, but the immediate effect has been evident in the form of increased production at these centres due to closer supervision and better management. The increased yield in the development blocks in various ranges has varied from 50 per cent to 100 per cent over the average yield in other areas.

Another important feature of the development plan consisted in laying down zonal trials at 49 centres for selecting suitable varieties of cane suited to particular areas and for testing the suitability of the results of the researches carried out at cane research stations in the zones. These trials consisted of varietal, cultural and manurial experiments. The work in the villages was further carried out in the light of the indications obtained at these centres. Other activities in connection with development of cane consisted of introduction of suitable varieties of sugarcane, selection of disease-free seeds, proper inter-cultural operations, improvement in irrigation facilities and distribution of implements and manures.

The policy of the Department in the distribution of seed was the replacement of the older varieties by new varieties whose suitability had been thoroughly tested. The selection of the suitable varieties has been entrusted to Statutory Regional Sugarcane Committees. During the year 1943-44 due to the increased availability of seed cane with the growers, the Department was not called upon to handle as large quantities of seed as it used to do. The quantity of seed cane distributed through the Department was, therefore, 1,682,475 maunds as against 2,750,200 maunds in 1942-43. The fall was also due to difficulties of transport in part.

Increased cost and difficulties in getting the material hampered the progress of manure distribution. The quantity of manure distributed, therefore, considerably fell as compared to the previous year. The quantity distributed during the year was 51,746 maunds as against 93,496 maunds during the last year. 88 per cent of the total supplies of manure was made in the gate-area of the factories and the rest was given at the outstations.

The number of agricultural implements supplied by the Cane Development Unions also fell during the year as compared to 1942-43, the reasons being the same as in the case of manures. The implements distributed numbered 26,504 as against 27,349 in the previous year.

Weather conditions remained fairly satisfactory and the rainfall on the whole was adequate, though not evenly distributed. The germination and growth of the cane crop was also satisfactory particularly in the Western and Central parts of the Province. Insect pests were very few and no serious attack of cane Borer occurred. Slight attack by Pyrilla was detected in some areas which was readily controlled.

Working of Cane Co-operative Societies in U. P. in 1943-44

Co-operative societies for the cane growers have been organised to serve as the pivot of the Cane Development Scheme. Such societies now function in the reserved areas of the factories. All development and supply work is carried through them. The total number of such societies in the Province comes to 87 having 18,783 villages in their area of operation. The membership of these societies consists of 4,150 primaries and 7,36,057 individual members. The working capital, accumulated reserve and other funds

of these societies came to Rs. 56,70,054, Rs. 16,01,206 and Rs. 10,83,308 respectively. During the year these societies advanced loans to their members amounting to Rs. 16,83,308, 84 per cent of which was given for seed and other needs of cultivation, 9 per cent for the purchase of cattle and fodder and the rest was given for the payment of rent and revenue, repayment of old debts, etc.

Marketing of sugarcane of the members is the principal business of the Cane Development Unions. Out of the total reserved area of 1037.59 thousand acres, about 829.67 thousand acres was under the operation of the unions. The total supplies of cane by the societies amounted to 1138.40 lakh rupees. During the year under report there was enough cane in the reserved areas of the factories and out of the total estimated yield of 3275.78 lakhs maunds, the factories crushed 2019.66 lakh maunds. The percentage of the total crush to yield in the reserved areas was 62. The total income of societies out of commission earned on cane supplies and the total cost of management of the societies was Rs. 11,66,771 for the year.

Of the 71 Seed Stores maintained by the Cane Societies, 9 were transferred to the Agricultural Department. The quantity of seed distributed through the remaining 62 seed stores was 91,099 maunds of grain, the average per store being 1,469 maunds.

In all 3,000 miles of roads were either constructed or repaired and 260 culverts and 160 bridges were constructed. 73 Stud Bulls were distributed in various regions and 136 wells were dug and 26 bored and 472 wells repaired.

For development purposes the Province was divided into three main tracts: (1) The Western and Rohilkhand Range with headquarters at Bareilly, (2) Eastern Tract with headquarters at Gorakhpur and the Central Tract with headquarters at Lucknow. All the divisions were engaged in development work.

Working of the Central Sugarcane Research at Shahjahanpur in 1943-44

Valuable research work was also done at the Central Sugarcane Research Station of the Imperial Council at Shahjahanpur, its Sub-Stations and in Zonal Centres and Cultivators' Fields during the season 1943-44. About 3,000 seedlings were raised in the field from the seeds of the 3 crosses received from Coimbatore. From the Varietal Trials Co. 466, Co. 557 and C.S. 2 have been found promising. Detailed botanical studies of a large number of varieties again revealed that a greater population of silica cells and denticules is associated with resistance to top borer attack. Borers and Pyrilla are less in plant cane than in ratoons during April and March but plant cane is more attacked by stem borer with the advance of the season. Periodical analyses of soil nitrogen were carried on in the general manurial experiment where different oilcakes and molassic manures as well as ammonium sulphate were being tried. Physiological, mycological, and soil investigations were conducted. Intensive soil survey was continued in Gorakhpur district completing 24 important cane zones of the district. At Muzaffarnagar Varietal and Agronomical trials were conducted. At Kalai Farm (Aligarh) ratooning experiments were made and manuring of ratoons increased the average yield by nearly 415 maunds per acre.

Regarding manurial trials, ammonium sulphate, castor cake, groundnut cake, neem cake, and departmental mixture all gave good response. About

40 mill tests were conducted in the different mills in the Province. Co 313 gave the best performance in Rohilkhand, as also in Eastern Tracts.

Cane Development in Bihar in 1943-44

The Central Sugarcane Research Station at Pusa in Bihar also put in good work in cane development. Mr. K. L. Khanna, Sugarcane Specialist of the Bihar Government, has been good enough to prepare a note on the working of cane development from which the chief points are recorded. Co 313 continued to dominate the white sugar belt and covered roughly 75 per cent of the area. In South Bihar Co 331 occupied about 83 per cent of the total area under cane and Co. 313 only about 15 per cent as it suited comparatively light soils. Due to deficient monsoon and its faulty distribution during the period of growth of the crop, and inadequate moisture conditions, particularly in light soils, both before and during the monsoon, the response to fertilization was poorer during 1943-44 than the previous three years being only 20 maunds against the average of 86 maunds.

A further step towards stabilising production in the cane belt was initiation of a 'Watch and Ward Service' to keep under check major pests and diseases. This kept the station in constant touch with cultivators and the entire environment and made possible immediate effective measures against a pest or disease assuming serious proportions. A quarantine area was being developed where all seedlings whether raised locally or introduced from elsewhere were regularly subjected to resistance tests. The soil service initiated 4 years ago has been gradually dveloping into an extension service in which each factory collaborated with the station by deputing one of its shift chemists in the off-season to carry out soil survey in its reserved area under the supervision of the station.

Cane-Growers' Co-operative Societies in Bihar

During the year under review the Cane Development Staff as usual took advantage of the organisation of the growers into societies to do as much development work as possible amongst society members. There were over 1,500 Cane-growers' Co-operative Societies in existence. Over 3,000 demonstration plots were laid out in members' fields, in order to demonstrate better and cheaper methods of manuring and such other improvements as the Agricultural Department had to offer.

Paramount need for Research Work Emphasised

The main problem of the sugar industry has been, and still remains, agricultural. Until the average yield of cane per acre is increased to about thrice its present average yield of 16 tons per acre, the industry cannot be said to have been placed on a stable basis. The production of improved varieties of cane having higher sucrose-content and yielding heavier crops, and their proper cultivation without affecting the fertility of the soil are questions of primary importance. Valuable research work is being done at the experimental farms and the Imperial Council of Agricultural Research Station at Coimbatore. Sir T. S. Venkatraman did a signal service for the development of improved sugarcane breeds at Coimbatore and his researches have produced far-reaching improvements in cane cultivation. Mention must also be made in this connection of the research work carried on in Anakapalle, Padegaon, Dacca, Shahjahanpur, Pusa, Izzatnagar,

Mysore, Hyderabad and many other places for breeding thick canes, for eradicating pests on sugarcane and for improvement in yield of cane per acre. These schemes of improvement are periodically reviewed by the Council of Agricultural Research. Now that the Indian Central Sugarcane Committee has been set up since 1944, it will, we hope, assume the responsibility directly for all this work of research and improvement and co-ordinate it. At the same time, we suggest that it should try to harmonise all the various activities and make the work of the Provincial Governments and States fit in the general scheme of all-India research work carried on from year to year. We feel it would be very helpful if the Government of India or the Indian Central Sugarcane Committee begin publishing from time to time reports on the progress of various schemes and bring them to the notice of the industry in order to enable it to know and appreciate what is being done in this connection.

Central Sugarcane Committee to Undertake Research and Development

With the constitution of the Central Sugarcane Committee in 1944, the demand of the industry for a central non-official body to undertake the work of development and improvement of sugarcane crop has at last been conceded. We feel that the Committee should examine the present state of affairs and on the basis of it formulate and carry out bold and vigorous measures of research and all-round development of the cultivation of sugarcane. As part of the excise duty collected on sugar would be placed at the disposal of the Committee, it would not, perhaps, be handicapped for want of funds in its work. We feel sure that this important task will be taken up without delay. Indications of its will to pursue a determined policy are not wanting. The Sub-Committee appointed by the Indian Central Sugarcane Committee at its second meeting in February, 1945, will, we trust, soon place its report before the public and recommend the adoption of necessary measures for such development.

Proceedings of the Inaugural Meeting of the Indian Central Sugarcane Committee, held in November 1944 and of the Meeting held in August 1945

The inaugural meeting of the Indian Central Sugarcane Committee was held at New Delhi on the 29th November 1944. The Committee considered and adopted the draft Memorandum of Association, etc.

The headquarters of the Committee have been fixed at Delhi and Lala Shankar Lal has been elected as its first Vice-President.

The Committee constituted a number of Sub-Committees, namely, the Finance Sub-Committee, the Local Sub-Committee, the Agricultural Research Sub-Committee, the Technological Sub-Committee, the Expert Sub-Committee, the Sugar Standards Sub-Committee and the *Gur* and Khandsari Sub-Committee. Of these Sub-Committees the Finance Sub-Committee will be the main Executive Body and will have all the powers of the full Committee in regard to the disposal of funds. The other Sub-Committees will be advisory bodies to the main Committee.

At the meetings of this Committee, held in August 1945, it was decided to establish an All-India Sugar Technological Institute. The site is yet to be decided.

Improvement in Cultivation most Essential

The problem of the industry at present is mainly the problem of effecting improvements in the cultivation of sugarcane. It must be known, understood and clearly realised that India will not be able to sell sugar on equal terms in the world markets until the price of cane is brought down to about 3 annas per maund. The industry cannot afford to rest on its past oars and expect the continuance of high protection for an indefinitely long period. If it is to compete successfully on equal terms with other countries and maintain its complete hold unimpaired over the home market, it is necessary to reduce costs of cultivation and produce sugarcane at a very low cost. Strenuous efforts should be made whereby the cultivator can produce sugarcane at a cost of, say, 3 annas per maund, by intensive cultivation of land, by the growth of cane of heavy yield, etc., by the proper rotation of crops, by irrigation, manuring and utilisation of improved methods of cultivation of soil. Just as manufacturing efficiency is no doubt important, agricultural efficiency and the percentage of sucrose in cane are still more essential. The quality of the cane and the yield per acre need therefore to be very much improved in India, and as early as possible.

Dr. Burns' Targets for Cane Yield

In his note on the "Technological Possibilities of Agricultural Development in India", Dr. Burns, formerly Agricultural Commissioner to the Government of India and lately, Officer on Special Duty in the Education, Health and Lands Department, has sought to fix the limits of increase in the production of agricultural commodities such as cereals, oilseeds, cane, cotton, jute, tobacco, vegetables, etc. He examined the question: how much can India speed up her production in the near future making the best of the present day methods of cultivation and indigenous resources and working within the limitations imposed by the social structure and political conditions, in India. In his opinion so far as cane yield is concerned it can be increased from the present average of 15 tons per acre to 30 to 55 tons per acre by the employment of all available resources in the most useful way. It will be seen that the possibilities of the yields envisaged by him in his monograph will roughly correspond to the yield in Java where the cost of production of cane is almost the lowest in the world.

The methods suggested for reaching the increased targets are better manures, improved varieties of seeds and implements, insect control, crop rotation, more scientific cultivation and conservation and maximum utilisation of available fertilisers, water, labour, soil and livestock. The note prepared by Dr. Burns together with the one on the economic background of post-war agricultural policy prepared by Sir Theodore Gregory, Economic Adviser to the Government of India is designed to form the basis of an all-India policy for the post-war agricultural development schemes. Therefore, the target of Dr. Burns in the case of sugarcane development will be of immediate practical value in assessing the possibilities for improvement. We hope that the Government of India and the Agricultural Departments will do their best to increase the yield of sugarcane per acre, as a systematic policy.

On the basis of numerous experiments conducted at the Sugarcane Farm at Walchandnagar, Mr. Kartar Singh, Assistant Director of Agriculture, Punjab, contributed an interesting article to the *Indian Farming* in May, 1944 detailing the immense possibilities of cultivation of improved

cane varieties in India. The article refers to sugarcane cultivation under particular conditions and says that the highly successful results obtained makes one wonder at "Industrialisation of Agriculture" even in India. (See *Indian Farming* May, 1944).

Work of the Imperial Institute of Sugar Technology

The Government of India started the Imperial Institute of Sugar Technology at Cawnpore, for a period of five years, from 1st October, 1936. The Sugar Section of the Butler Technological Institute was amalgamated and taken over by the Imperial Institute of Sugar Technology. The management of the Institute was under the direction of the Imperial Council of Agricultural Research. The Institute undertakes research work on (*a*) problems of sugar technology in general and sugar factories in India in particular; (*b*) utilisation of the by-products of the industry; (*c*) testing and development of cane to suit factory conditions; and (*d*) general problems of sugar engineering and chemistry. With the constitution of the Sugarcane Committee the Institute will go under the management of the Committee which will be responsible for the future functioning of the Institute.

In addition to the above functions, the Institute provides adequate facilities for the training of students in all branches of sugar technology. It also provides sugar trade information services, bureau of sugar standards, and an employment bureau. It is designed to serve the needs of the industry in technical, commercial and statistical matters.

Cost of Cultivation of Cane and Fair Price of Cane

In the year 1933, the Imperial Council of Agricultural Research instituted an enquiry throughout India to ascertain the cost of cultivation of sugarcane and cotton crops of India. The results of their enquiry were published dealing with the cost of cane cultivation in various provinces. The Tariff Board of 1937 also examined the cost of cultivation in the principal sugar-producing areas. They came to the conclusion that 0-3-7 per maund was a fair estimate of the cost of cultivation in U. P., 0-3-4 in Bihar, 0-5-0 per maund in the Punjab, 0-7-0 in Bengal, 0-5-10 in Bombay, and 0-5-5 in Madras. The Tariff Board also observed that allowing for the same climatic advantages, the possibilities of a general improvement in tonnage and quality were greater in the South than in the North, and an equalisation of the cost of production is feasible at no distant date. For the purpose of estimating an all-India figure, however, the Tariff Board observed that greater weight should be given to the cost of cultivation in the United Provinces and Bihar, the main sugar-producing areas. Taking all points into account, the Tariff Board considered that 0-3-9 per maund might be taken as a reasonable estimate for the cost of cultivation for the whole of India. The Tariff Board further considered as to what would be reckoned a reasonable margin of profit to give the cultivator and arrived at the conclusion that six pies per maund on an estimated cost of 0-3-9 was in their opinion a fair figure. Therefore, the Tariff Board estimated 0-4-3 per maund as the fair price for cane.

As this data has now become out of date and obsolete, we suggest that an enquiry should now be conducted to ascertain the present costs, in order to enable fair prices of cane being fixed.

Sir Shri Ram's Plan for Lower Cost of Sugar and Cane

In this connection it will be of interest to go into the details of a plan which Sir Shri Ram submitted for consideration as early as 1940 to reduce the prices of sugar as well as sugarcane in India.

The war has brought into existence various abnormal factors and the general price structure, consequent upon inflation and scarcity, has almost skyrocketted. Naturally sugar and sugarcane, in common with other commodity prices have also attained high levels and cane prices are now very attractive. The protection afforded to the industry was formally extended till March 31, 1946 and it will expire unless it is renewed again. Although due to war there is no external competition, with the revival of trade in the post-war period, competition might come again. According to the original programme, protection was given for 15 years and a Tariff Board should have been constituted in 1942 to go into the question of the quantum of protection necessary for the future—the idea being that protection should be gradually reduced and finally done away with in course of time. But as war conditions did not permit the constitution of a Tariff Board in 1942, Government was obliged to renew protection for a temporary period. The whole question will have to be gone into, now that the war is over. But we cannot lose sight of the fact that this is after all a temporary phase and the consensus of opinion is that protection will have to be gradually reduced. For this, the industry must prepare itself from now on.

In this connection the plan put before the Governments of U. P. and Bihar by Sir Shri Ram in 1940 needs a reference. Although the schedule of prices appended to his plan have become antiquated and outdated by war conditions, the idea of planning a gradual climb-down in the cost of manufacture of sugar and sugarcane is the essence of the scheme. Sir Shri Ram outlined a plan according to which sugar price could be reduced from a level of Rs. 9 per maund in 1939-40 to a level of Rs. 6 per maund within seven years by gradual reductions caused by improvement of cane crop and manufacturing technique. Likewise the cost manufacture was sought to be brought down from Rs. 2 to Rs. 1-7-0 and the mill profits from 0-13-0 annas to 0-8-0 annas per maund. The cane price including transport charges, commission, cess, etc. was sought to be reduced from 0-6-9 to 0-4-0 per maund by steps. Unless in the post-war period the present cane prices in U. P. and Bihar are considerably reduced so low as 3 or 4 annas per maund and sugar can be sold at Rs. 6 per maund which is the lowest level at which Java sugar cannot be imported in competition, the prospects for the future are gloomy indeed. There can be no doubt that such reduction can be effected by a planned drive on the agricultural as well as manufacturing fronts of the sugar industry. Sir Shri Ram's plan based on three main points, viz. (1) a gradual reduction of cost of production of sugar from year to year till the end of protection period, (2) the formulation by the Governments of U. P. and Bihar of a progressive programme of cane development so as to increase the yield of cane per acre as well as the percentage of recovery, and (3) reduction in mill profits and the maintenance of excise duty on sugar at Rs. 1-8-0 per maund, is worthy of close examination, coming as it comes from a practical industrialist.

Marketing of Sugar—Report Published in 1943

The question of marketing of sugar and sugarcane was discussed at the meeting of the Sugar Committee of the Imperial Council of Agricultural Research on the 3rd May 1937, at Simla and such survey was undertaken under the guidance of the Agricultural Marketing Adviser to the Government of India, with a view to assist in placing the sugar industry on a sound footing. The Report was published in 1943. It has comprehensively dealt with the marketing problems and made useful suggestions.

Stability of Agricultural Prices Committee and Central Land Utilisation Board appointed in 1945

The Government of India with a view to investigating and recommending the adoption of suitable measures to maintain the stability of agricultural prices and proper marketing facilities for principal crops, set up a Committee under the chairmanship of Sir V. T. Krishnamachari early in 1945. The Committee of Marketing consists of Sir V. T. Krishnamachari (Chairman) ; the Hon. Mr. Hossain Imam, Mr. Fazal I. Rahimtoola, Rao Bahadur N. R. Samiappa Mudaliar, M.L.C., Dr. L. C. Jain, Mr. Roger Thomas, Sir Pherozе Kharegat (representative of Education, Health and Lands Department), Sir Theodore Gregory (representing the Commerce Department), Dr. V. K. R. V. Rao (Food Department), Mr. C. N. Vakil (Planning and Development Department), Mr. B. K. Madan, (representative of the Reserve Bank of India) and one nominee of the Chamber of Princes. Mr. W. R. Natu, (Statistical Adviser to the Government of India), will act as Secretary to the Committee.

The terms of reference to the Committee are to consider :—

(*a*) The principles, on which producers' prices of agricultural produce, whether crops grown for industrial purposes or for food, or the produce of animal husbandry of all descriptions, should be fixed.

(*b*) The means by which such prices can be made effective and an assured market be provided, and to make recommendations.

The Committee will report on its terms of reference in relation to conditions in the post-war period (1) in which a substantial measure of Government control over the procurement, distribution and prices of commodities exists, and (2) in which such control has been relaxed or abolished and normal trade and market conditions have been restored.

The Government of India also appointed a Committee to deal with the question of establishing a Central Land Utilisation Board. The Board will have to plan, and co-ordinate work on an all-India basis, in respect of soil erosion, forestry, land reclamation, irrigation works and other forms of land improvement. Sir N. Gopalaswami Iyengar is the Chairman of this Committee.

Factories Definitely Prefer Gate-cane to Rail-borne Cane

Generally speaking, cane is transported to factories by carts and lorries within a radius of about 15 miles from the factories. The area near the mills is termed as gate-cane area. Factories prefer gate-cane to rail-borne cane for various reasons including its freshness, uniformity of supply, less dependence on wagons which sometimes arrive late, and less handling.

We have no doubt that with the improvements of roads and communications, larger and larger quantities of cane will be brought by carts and delivered to factories as gate-cane. Where gate-cane is not available the factories have to obtain their requirements of cane from long distances by rail. The average distance of cane brought by rail may be taken as 15 miles and the maximum at about 150 miles. Unfortunately the problem of cane supplies to mills has considerably been affected by the lack of transport facilities during the last two or three years. The restriction of 10 miles and 25 miles radius of the mills also adversely hit some mills which used to get their supplies by rail. The transport problem of cane therefore continues to be serious even now. We suggest that some improvement must be brought about and factories, should be enabled to get their cane supplies also by rail (due consideration of the general transport position being of course, taken into account), with the object of ensuring full supplies of cane required by the mills.

By-Product Industries

We have already dealt with the need for the early establishment of the auxiliary and by-product industries of sugar manufacture. Molasses and bagasse, the two main by-products of the industry, should be put to more economical use. Molasses should be used for power alcohol in preference to rectified spirit and power alcohol should be made use of with petrol as mixture. We have dealt with power alcohol production previously at length. Plastics, pressed boards, wrapping papers, straw-board, rayon, etc. can also be made from bagasse which is now being wasted as fuel.

Problem of Marketing Sugar in India

Now that central control over production, distribution, prices and other aspects of sugar industry has been assumed, the problem of sugar and gur marketing does not seem to present any insurmountable difficulties. So long as the potential demand is very large in relation to production as it is at present, marketing will be easy. But in normal times the problem of marketing of sugar was not so easy as it appears to be now. More than 75 per cent of the sugar produced in India is produced in U. P. and Bihar and this production is far in excess of the internal consumption of these provinces which should necessarily be exported to other provinces. This situation calls for scientific marketing of sugar in the various parts of the country in a manner which would avoid over-lapping, eliminate unhealthy competition, minimise the freight charges and also eliminate import of foreign sugar at the ports and keep the entire Indian market for industry. The Indian Sugar Syndicate was formed for this important purpose and it functioned very well until its powers in respect of distribution were taken over by the Government when control was assumed in 1942. We earnestly hope that the marketing methods will be carefully studied and the internal markets developed well, as soon as normal conditions return.

We also feel that the production of sugar in the country should be so regulated as would leave a normal carry-over varying between 2 to 2½ lakh tons at the end of each season. The production of cane should also be regulated evenly with this end in view.

Consumption in Provinces

The U. P. and Bihar only consume about 20 per cent of their normal output per year and export the rest to other provinces and areas. Bombay and Punjab which produce only 7 per cent of total sugar consume largely sugar imported from U. P. and Bihar. The *per capita* consumption varies widely in the provinces, just as consumption varies from urban to rural areas. Bombay is the province where *per capita* consumption is the highest generally and the Indian States are the lowest in such consumption. The variation in consumption in different provinces is due to several factors. The Report on Marketing of Sugar contains very interesting observations regarding consumption of sugar by various provinces, classes, and for various purposes. (Also see Table No. 34, p. xvi in the "Sugar Industry at a Glance").

Bureau of Sugar Standards and Qualitative Analysis of Indian Sugar for 1944

With effect from the 1st of April, 1940, the Bureau of Sugar Standards became an integral part of the Imperial Institute of Sugar Technology. The Bureau continues to (1) prepare and supply the Indian Sugar Standards, (2) publish an annual review dealing with the quality of Indian sugars and giving comparative figures for competitive foreign sugars, and (3) maintain a museum of samples of sugar and sugar products.

In the production of various grades of sugar by the mills during 1943-44, the conditions of the previous year existed as before and due to lack of sulphur, lime, and other chemicals, maintenance of higher standards became difficult. All the sugars produced from A28 to G19 can be classified into three big groups, namely, the "Bold", the "Middle" and the "Inferior". Each group has got its sub-divisions according to grade. In the Bold group are included A, B and C grains; in the "Middle" group D, E, F and G and in the "Inferior" group the same grains as in the "Middle" group but with inferior colour and qualities. This analysis gives a rough picture of the sugars produced during 1943-44.

Indian Sugar Syndicate's Activities in 1944

In the previous *Annuals* we have dealt with circumstances under which the Indian Sugar Syndicate, the marketing organisation of the Sugar mills in U. P. and Bihar, was obliged to curtail its activities to the minimum after the enforcement of sugar control and assumption by Government of distribution of sugar. Among the numerous activities of the Syndicate during the year, mention must be made of its influence and readiness to help the ventilation of any grievances of mills. It stood out for the rights of its members whenever the control measures rode rough shod over their elementary rights as producers. The Syndicate served as a clearing house for all complaints of the factories and in many cases relief was obtained by proper representation.

The Syndicate made an attempt to take on itself the burden of distribution of sugar in the province of U. P. at least, serving in this respect as an executive of the Provincial Sugar Controller. But the Government did not seem willing to entrust the function to the Syndicate and so spurned the offer. Had the Syndicate been entrusted with this task within the Province, its experience, organisation and resources could have been pooled and utilised and a great load of responsibility should have been transferred

from the shoulders of the Government to the Syndicate. The short-sightedness of the Government in this respect cannot but be deplored by all interests concerned with the sugar trade. The Syndicate, however, is keeping itself ready to take over again the role of marketing organisation of its members as soon as the war-time control now in force is withdrawn.

Tranport and Co-operation of Railways

The development of the sugar industry has called for an effective co-operation on the part of railways, inland steamships, and other means of transport, in order to find markets at distant ports and internal centres for Indian sugar. Although such co-operation has been slowly forthcoming and various transport arrangements have been made in the past, the war-time restrictions and shortage of wagons have come in the way. Adequate provision of transport facilities is now a difficult problem and many restrictions on movement of cane and sugar have been imposed to curtail the volume of traffic on railways. Facilities in the shape of sidings, and handling of this traffic and concessional rates in freight, wherever possible, should be made available for sugar mills. While no special favour will now be asked from railway authorities, co-operation of railways in retaining distant port-markets for Indian sugar as against imported foreign sugar should be assured.

Road Development in Factory Areas and Other Facilities

For increasing the facilities and communications for easy transport of sugarcane by lorry, bullock-cart, or other means, it is essential to effect improvement of roads and also to make new roads. With the improvements of roads, factories need not depend much upon rail-borne cane and can extend the area of their gate-cane by making use of lorries owned and managed by them. Alternately bullock-carts can also be made use of to such extent as is possible. Therefore road development in factory areas is a great necessity and it is a pity that so far it has been neglected by the authorities and the mills too. The post-war road planning measures have now brought attention to this problem. That road development in factory areas is urgently called for goes without saying. An economical and satisfactory development of roads by the Government in the reserved areas of the factories under the supervision and advice of the mills should be productive of good results. The work must be undertaken on the right lines with the co-operation of the mills by the Government itself. If the mills are asked to maintain and build roads, due to lack of technical experience and funds, no progress can be achieved. If on the other hand Government take it up and co-ordinate this with the general plans of road development it will yield great benefit to the industry. Provision of bullock-carts of improved design with rubber tyres, if necessary, should be introduced and greater use made of motor transport for supplies of cane.

Expenditure on Research and Investigation Benefits All

We have already referred to the paramount necessity of Research work and spending money on it liberally. Expenditure in this respect should be regarded by the mills and the Government as profitable investment which will ultimately pay itself many times. We urge upon the Government of India, the U. P. and Bihar Governments to make sufficient allocations of money for this useful and important work. The Imperial Council

of Agricultural Research assessed the total value due to increase in improvement of cane at 2¼ crores of rupees per annum. We feel that at least a sum of Rs. 50 lakhs a year should be spent for research work by all Governments put together.

Bihar Labour Enquiry Committee

In 1938 the Bihar Government appointed a Labour Enquiry Committee for investigating into the problems relating to industrial labour in Bihar and to make recommendations for improvement in conditions of wages, employment, work, etc. Dr. Rajendra Prasad was the Chairman and Mr. M. P. Gandhi, the Author of this *Annual*, was one of the members. The Committee submitted a Report on conditions of labour but no marked progress was made in implementing the recommendations. Proposals were made, however, in 1945 by Bihar Government for ensuring a minimum wage of Rs. 20 per month in sugar factories.

Conditions of Labour in Sugar Industry in U. P. and Bihar

The sugar industry is a seasonal one. It is scattered over the country-side in the province and a large number of factories are situated in small towns and villages. Unlike other industries, it is not concentrated in big industrial centres. The labour employed in sugar factories is mostly drawn from the agricultural classes living in the neighbouring villages. Therefore labour conditions in sugar industry differ from those of other industries.

Recruitment of labour, as a general practice, is made direct by the General Manager or under his supervision through the Heads of Departments, viz. the Chief Chemist, the Chief Engineer, the Cane Manager, or the Cane Superintendent. There is usually very little of contract work in this industry. It is confined to the unloading of cane or loading of sugar bags. The contract work here is of the nature of group-piece-work in which a mate or a sirdar undertakes to do a job on a piece rate, the payment for which is divided among his co-workers according to their share of work.

The normal working season consists of about 130 days in a year. At the end of the working season about 90 per cent of the labour force, mostly unskilled workers, are discharged and at the beginning of the following season they are, as a general practice, re-engaged on their old rates of pay. But in some cases this practice is not followed. A very small number of workers, especially skilled ones, are retained in the off-season for repairing and overhauling machineries. This number varies from factory to factory and even for the same factory from year to year. No off-season allowance is paid to the discharged workers. Some of the factories give off-season allowance to the skilled workers discharged at the end of the crushing season at one-half of their wages.

Working hours and payment for overtime are in accordance with the Factories Act.

Wage rates paid to workers vary from factory to factory. The Bihar Labour Enquiry Committee recommended a minimum wage of Rs. 12 per month in 1940. This recommendation has not been adopted by the factories except by one or two. Recently the sugar factories have, on the intervention of the Commissioner of Labour, agreed to pay a minimum basic

wage and Dearness Allowance of 0-9-0 per day (0-6-0 basic wage plus 0-3-0 Dearness Allowance) to their workers.

Most factories have provided some housing for their workers, especially for those who come from a distance. But such housing is neither sufficient nor in all cases suitable. Some of the factories provide one or more of the following to their workers free, viz. kerosene oil and fuel, chowkis and buckets. Some of them pay bonus. The amount varies from 15 days to 1 month's wages.

Medical facilities are lacking in sugar factories. Some employers depend on the doctors and dispensaries of the District Boards. Some pay the doctors an allowance for looking after the factory employees; while a few make a monthly or annual contribution to the District Board hospitals. There are other factories which have not done anything at all.

The workers employed in sugar factories are disorganised and illiterate. They are not even aware of the provisions of the Labour Acts. A few Labour Unions have been established in some sugar factories of Saran. Employers in general are against the growth and development of trade unions in their factories.

In 1945, the Bihar Government asked the factories to pay a minimum wage of Rs. 20 per month. The factories have replied that unless sugar prices are increased, to compensate them for such additional expenditure, they can hardly do so, and have suggested that the Government should approach the Sugar Controller with a request to consider this matter when fixing prices of sugar for 1945-46.

Future of the Industry Bound up with Increasing Yield of Cane

The future of the sugar industry depends upon the vigour with which research work is carried on in its various complex problems—agricultural, chemical and technological. The success of the industry is dependent on reduced costs of cultivation of cane by increasing yield per acre from 15 tons to nearly 40 to 50 tons per acre. This will enable the industry to stand in competition of Java, Cuba and Philippines.

Subsidiary Industries Need Development

Efforts should be made to develop subsidiary industries like confectionery, syrups, etc. We feel that if suitable assistance is given to the industry, such things like confectioneries, biscuits, sweets, toffees, chocolates, etc. can be manufactured in this country and these new lines of production can be developed advantageously.

India Free to Export Sugar

Reference has already been made for the termination of the International Sugar Agreement of 1937 and India's non-participation in it since March 1942. The restriction for export of sugar by sea to other countries is no longer there and so barring the internal difficulties of short production and enormous demand for consumption, there is no ban or prohibition for export of sugar from India. Since the war is now over, this freedom to export in the immediate post-war period will considerably help India to secure a safe market in the Middle and Near East and build up an export market. It may be hoped that the temporary eclipse of Java and Philip-

pines from the field will be of help to the Indian sugar industry in gaining some fresh markets for sugar.

Post-war Reconstruction Programmes for Sugar Industry

Planning is now the topic of burning interest in India and everywhere there is a talk of economic planning. In this general scheme, the sugar industry will doubtless be included. The Reconstruction Committee of the Viceroy's Executive Committee as well as the Planning and Development Department have been putting forth copious literature on planning of various industries. From the foregoing study of the industry, the need for reorganisation, consolidation and development of sugar industry is no less vital at the present time and we have stated that this should be done on an all-India basis, keeping in mind the special needs of various units. A long-term policy of development and a short-term policy of meeting the immediate needs of the industry must be formulated and work carried out with the help of the authorities, Central and Provincial, by the industry. This is an urgent task of post-war reconstruction and it involves within itself the stage of transition from war to peace economy.

Industrial Panel on Sugar, Power Alcohol and Yeast Constituted in 1945

In pursuance of their general policy of industrial development plans, the Planning and Development Department of the Government of India have announced the appointment of a special panel to report on development of the sugar industry. The Department announced the setting up of 29 separate panels for various industries or group of industries. Each panel is expected to go into the question of its development, in full consultation with Provincial Industrial Committees and submit a final report to the Planning Department.

In the case of sugar, power alcohol, and yeast, the *personnel* of the panel consists of, Sir Shri Ram (Chairman), Messrs. R. C. Srivastava, Lalchand Hirachand, M. B. Amin, Vishnu Sahay, S. M. Dhar, W. H. A. Webb and Dr. B. C. Guha.

The Report of the panel is expected to cover the plan for industrial development of this industry for the first five-year period after the war. In making the Report each panel will be given a definite target to be aimed at during the period.

We welcome enthusiastically the constitution of a separate panel for this second biggest national industry and confidently hope that it will go into the matter fully and issue a report dealing with the necessity of the reorganisation and development of the sugar industry in India, to at least twice its present size, within a period of years.

Government of India's Statement of Industrial Policy

The Hon'ble Sir Ardeshir Dalal, Planning and Development Member made an important statement on the Industrial Policy of the Government of India in April, 1945, wherein he stated that major industries would be brought under control and supervision of the Central Government. He also stated that it would be possible that some of the industries might be taken by the Government itself for working on modern lines. Whatever be the controversy about the nationalisation of industries, there can be no two opinions that industrial policy on major development should be centralised

and controlled from one place in the interests of all parts and above all, in the interests of the whole of the country taken as a single economic entity. We, therefore, heartily welcome the central control of industrial planning and initiation of major policies. In fact we have been urging for the acceptance of that view since long.

So far as sugar industry is concerned, all-India control and planning is to be welcomed in the best interests of the whole country. While the position of U. P. and Bihar as predominant sugar producing areas should be maintained and adequately protected, the need for co-ordinated development in other provinces in new expansions and extensions of the mills cannot be overlooked. Therefore harmony and co-ordination between the various units should be brought about by an all-India control.

Long-term and Short-term Planning Policy

The need for having two sets of programmes suited to the varied calls of the industry cannot be discounted. Immediate augmentation of output of sugar by supply of sulphur, chemicals, lime, fuel, mill-stores, etc. should be aimed at to overcome any temporary difficulties and to give a fillip to the industry. Parts, and machine tools should be arranged under priority import list and sufficient transport facilities should be provided. Cane prices should be adjusted to make them as attractive, if not more, and remunerative to cultivators as from cultivation of other food crops. Such of these small measures as are possible should be taken to increase production at once with the existing capacity of the mills.

A long-term policy based on a study of the industry in India in the background of world sugar conditions should be evolved and worked out. Provinces of Bengal, Bombay, Madras and Indian States should be allowed to have a more equitable share in the development of new mills. All these problems must be considered in a long-term policy.

Some Immediate Problems Facing the Industry

Now that war in Europe is over the present is a particularly opportune moment for planning for peace-time. The potential capacity of the industry must be fully turned to increased output of sugar. Indian sugar is finding its place in outside markets. We may refer briefly to some important problems which are now confronting the industry and try to see how best they can be impressed upon the serious attention of the industrialist and Government. Among the many problems, the following are worthy of special mention :—

(1) Improvement of the quality of cane and the average yield per acre.
(2) Eradication of diseases and pests.
(3) Reduction of the cost of production of cane.
(4) Development of improved varieties of cane in Reserved areas of factories and adoption of early ripening, and late ripening canes to make the duration of crushing season longer.
(5) Provision of adequate transport and supply of chemicals and stores, etc., and
(6) Standardisation of quality sugar and improvements therein.

The sugar industry cannot afford to rest on its oars and should do everything in its power to decrease costs and increase output, now.

We might repeat with all the emphasis at our command that the ultimate success of the industry will depend on the harmony and co-operation amongst the various interests concerned, viz. the industrialists, cane growers, the various local Governments and the consumers. We cherish the hope that in appreciation of the clear, definite and tangible advantages which flow from the establishment of this great industry in which about Rs. 33 crores of our capital is employed, and no less than 20 million cultivators, about 3,000 university graduates, 100,000 unskilled labour, and many merchants, transport agencies and other people are engaged, the industry will be helped by the State in every way to attain a high degree of efficiency before long, and establish itself on a firm footing.

Sugar Production in U. K. and Other Countries

It was pointed out in the previous *Annuals* that the outbreak of the war and scarcity of shipping tonnage had affected the consumption of sugar in Britain adversely. It was also pointed out that due to the same difficulties the *per capita* consumption in United Kingdom had declined to 50 lbs. per annum from 121 lbs. and that strict rationing was introduced. For political and military reasons, many of the European countries had to develop and depend upon the output of beet sugar as imports from distant places became difficult. Sugar rationing in U. K. has been primarily due to the difficulties in regard to shipping and the urgent need to conserve shipping for vital war needs.

The United Kingdom's annual requirements for direct consumption, for manufactures, and other uses are approximately 1.4 million tons now compared with about 2.25 million tons in the pre-war period. Of this total about 500,000 tons is expected to be supplied by home-grown beet sugar and the balance of 900,000 tons being imported from abroad.

The spread of the Japanese war in 1941-42 resulted in the loss of Java, Philippines and other sugar producing islands and even Australia which used to export its surplus to U. K. was cut off from fear of enemy attack from the other countries. In Australia the production of sugar during 1942-43 is estimated at 655,000 tons as against 748,000 tons in the preceding season, and in 1943-44, at 6,25,000 tons.

India the Biggest Producer in the Empire and the World

By sheer force of circumstances, this country is now getting the recognition it ought to have received long ago. The loss of Philippines sugar, the loss of Java and the remoteness of Australia have increased the importance of Indian sugar for defence and strategic purposes of war. Efforts are now being made to maximise production of sugar in India. Total production in India in 1943-44 exceeded 12 lakh tons and this is a very creditable achievement. In the British Empire India is the largest sugar producing country now. All this remarkable transformation has taken place in a few years.

According to an analysis of the sugar trade by Mr. Alice Mullen and the U. S. Consul in Calcutta Mr. Charles Brookhary, published in the official organ of the U. S. A., *Foreign Commercial Weekly* of New York, India is fast emerging into a factor in the world sugar trade. "If the present developments continue, India may eventually become a factor in the world sugar market," so runs their opinion. Three reasons have been advanced by them

in support of this contention. Firstly, Indian Sugar Industry has increased white sugar production despite war-time handicaps such as shortage of sulphur and other materials; secondly, India is one of the biggest sugarcane producing countries in the world; and thirdly, during the official year ended March 31, 1943 she exported sugar valued at Rs. 1,10,00,000 mostly to Persian Gulf areas and Ceylon.

Thus the undoubted rise of Indian sugar industry into prominence in the British Empire and in the world is an important development that has been brought over in a short time. This is a happy augury for the future of the industry in this country.

World Production and Consumption of Sugar

Sharp changes in the production of sugar and consumption in individual countries have been noticeable during the year due to a number of abnormal factors. From the latest information received by the Director of Imperial Institute of Sugar Technology total world production of sugar, both cane and beet, during 1944-45 as estimated by Messrs. Willet & Gray, amounted to 19,460,000 tons of which about 17,000,000 tons is cane sugar and the rest beet sugar, as compared with 20,000,000 tons in the preceding season. Production of beet sugar has increased a little over that of the previous year.

In Cuba, the sugar crop of 1945 amounted to 5,000,000 short tons (or 4,464,000 tons). In Louisiana (U. S. A.) the latest estimate of cane production during 1944-45 is placed at about 3,80,000 short tons.

In the Hawaiian Islands, the latest estimate of the production of sugar for 1943-44 is placed at 880,000 tons, as against 791,000 tons in the preceding year, and the same is the estimate for 1944-45.

In Porto Rico, the production of sugar during 1943-44 declined to 725,000 short tons from 1,039,000 short tons in 1942-43 due chiefly to shortage of fertilizers. According to the estimates of the growers, the 1944-45 sugar crop will be about 950,000 tons.

In the Dominican Republic, the production of sugar in 1944-45 is estimated at approximately 400,000 tons. In Australia, the preliminary estimate of the production of sugar in 1943-44 is placed at 570,000 tons, as compared with 486,000 tons in the preceding year. In Africa, the latest available estimate of the production of sugar for 1943-44 is placed at 1,138,000 tons as against 1,146,000 tons in the preceding year. In Mexico, the production of sugar in 1944-45 is not expected to exceed 385,000 tons. In Peru, the production of sugar in 1944 is estimated at 441,000 tons.

In the United States of America, the production of sugar beet for 1944-45, as indicated in October 1944, is placed by Messrs. Willet & Gray, the International Sugar Brokers of New York, at 9,82,000 tons, as compared with 891,000 tons in 1943-44.

For Axis and Axis-dominated countries, the details of production are not available. German occupied European territory is presumed to have, in spite of handicaps, maintained the level of beet sugar production. There is on the whole a shortage of sugar output in the season 1943-44 and the same conditions are expected to result in the current season 1944-45 also. The demand for sugar is no less great, particularly after the release of the European countries. Russian sugar production, which suffered a devastation in the war,

has according to latest reports, recovered considerably, several of her factories having started work again.

The figures of world consumption of sugar and the carry-over are not available at present due to the disturbed international situation. But as the production of last year had been low compared with the large demands the stocks of carry-over should necessarily have been low.

The world production in 1944-45 will be about 19,460,000 tons as compared with over 30,000,000 tons in the pre-war period.

Rationing in the U. S. A. and Australia

Sugar rationing is functioning in U. S. A. as well as Australia. Australia by reducing internal consumption to the minimum by the introduction of rationing is exporting its small surplus to Great Britain. Rationing of sugar in the United States, which was announced in May 1942, provides for an allowance of 8 ounces per week to individuals and 80 per cent of normal supplies to industrial concerns. On this basis annual consumption is estimated at 3.8 million tons. Rationing in the United States was introduced mainly to effect economy in space. It was also intended to release sugar for consumption to other United Nations who had lost their former sources of supply.

International Sugar Agreement Renewed by 14 Countries but not by India

The protocol extending the International Sugar Agreement for a period of two years from 1st September 1942, was signed in London by the representatives of fourteen out of twenty-one signatory countries, viz. Australia, South Africa, Belgium, Brazil, Czechoslovakia, Dominican Republic, Haiti, Netherlands, Peru, Portugal, United Kingdom, the U. S. S. R., the U. S. A. and the Philippines. As mentioned above, India decided to terminate the agreement and did not enter the protocol. Consequently she is free to export sugar now to any country.

I. L. O. Suggest "Super Control"

Dr. O. W. Willcox, the author of a famous book on Sugar Industry and associated with I. L. O. has examined the organisation of sugar industry in the international markets in the post-war period. The I. L. O. Dr. Willcox, says, is decidedly in favour of international controls in commodities which have been subject to periodical cycles of depression and ruinous prices resulting from over-production. He opines that an International Commodity Control Scheme should embrace all countries that export to the world market and those which import from those countries. Dr. Willcox suggests the institution of "Super Control" over all national controls by the I. L. O. Dr. Willcox has contributed an article explaining his views under the caption "Toward a New International Sugar Agreement" published in the U. S. Journal *Sugar* for December 1944. (See U. S. Journal *Sugar* for a detailed account of the problem.)

National Role of Sugar Industry in India

Sir T. S. Venkatraman in a paper submitted before the Thirteenth Annual Convention of Sugar Technologists Association of India has dealt with the national role of the sugar industry and made some enlightening and important observations. Dealing with the need for closer contact and

mutual and joint effort of the cultivator and the mill-owner, he says: "I visualise a great sphere of usefulness in the future for the sugar factory working in close unison with the cane growers of the tract. Such a union would be thrice blessed: It will greatly benefit not only the factory and the grower but also benefit the country at large from the effective and speedy amelioration of the peasant-agriculturists—often referred to as the mainstay of our national economy".

Post-War Planning in Sugar

An agricultural-cum-industrial development of outstanding importance to our country within the last decade has been the renaissance of our sugar industry. To the great advantage of Indian Agriculture, Indian Capital, Indian Technicians and Indian Labour, a great industry has been built up. The newly-constituted Central Sugarcane Committee will turn its immediate attention and time to the building up of the future of this industry. The cost of raw material should be reduced to the minimum by continuous improvements. Reorganisation should be carried out on a carefully planned basis keeping in mind the entire needs and interests of the country.

Provincial Governments Must Assist the Sugar Industry

We would reiterate here that the most important problem before the industry is that of improvement of cultivation of cane and of the reduction in the cost of production. In this respect a great responsibility lies on the shoulders of the Provincial Governments and the Agricultural Departments for assisting in every way the cane grower. The industry deserves the fullest support from the various Provincial Governments. In particular the Governments of U. P. and Bihar must expend larger amounts of money on development of cane cultivation, building of roads near factories, and free supply of technical aid to mills. They should also protect the interests of the cultivators and improve their lot. The industry also needs a measure of sympathy from the Provincial Governments by way of reduction of taxes, cesses, local tolls, etc. and also the provision of adequate transport facilities Mills should be allowed to make fair profits like other industries of the country and be in a position to develop resources and reserve for depreciation and replacements of the war period. Tax concessions and a liberal price policy are needed now to improve the fortunes of the sugar industry.

Bengal's Difficulties and Need for Help

A peculiar feature of the Sugar Industry in Bengal has been its remarkably low production of about 12 thousand tons in spite of its potential capacity for production of about 60 thousand tons and consumption of about one lakh and 70 thousand tons, the bulk of which has necessarily to be imported from U. P. and Bihar. The industry in Bengal is in dire need of some immediate help. We suggest the following methods for consideration of the authorities :—

(1) Fixation of a suitable high minimum price of cane for 1945-46 at, say, Re. 1-2-0 per maund for cane delivered at the gate, Re. 1 at the railhead and 14 as. at the ghats by boat, to ensure maximum quantity of cane being brought to the factories.

(2) Restriction on crushing of ripe cane for manufacture of *gur*, till about the 15th of December, thus ensuring both proper utilization of cane and adequate supply for the factories.

(3) Arrangement for speedy transport of cane by rail and also by bullock-carts and boats which are in deficient supply at present and for fixation of higher sugar prices for Bengal sugar by the Sugar Controller, consequent on higher minimum cane prices and higher cost of production in the Province—such higher prices can be met by a special levy on sugar consumption in Bengal or by some other method.

In addition to these, an important direction in which the industry in Bengal can be helped prominently is by evolving an organisation for supply of suitable quality of cane, both early-ripening and late-ripening varieties, with plenty of sucrose, through the aid of scientific research in the soil of the Province. Unless adequate measures are taken immediately, the Sugar Industry in Bengal will languish and the agricultural and industrial economy of the Province will suffer.

Assistance to the Industry by Central Government and Legislatures

We hope that the Planning and Development Department of the Government will follow a liberal and cautious policy towards the sugar industry which has served the country well, and without any profiteering during the war-period. The whole question needs careful and patient study and any undue haste in adopting measures will result in loss to the industry. The present tariff duty should be maintained for another 3 years, and in the meantime, as soon as conditions become normal, a Tariff Board Enquiry should be held to assess the quantum of protection and the period of protection for the industry. The need for regulating the industry on an All-India basis cannot be sufficiently emphasised. Further, the Central Government and the Legislatures should adopt a friendly policy towards the sugar industry and enact measures to safeguard the vital interests of the industry which is so useful in the national economy. We fully share the feeling that a popular National Government is needed for following a progressive and dynamic industrial development policy in India and the institution of such Government will hasten a brighter future for the sugar industry. We trust that the members of the Central and Provincial Legislatures will evince a keen interest in devising measures for the proper development and regulation of this second great national industry.

Nutritional Survey, 1945

We are glad to note that Dr. V. K. R. V. Rao, Director of Statistics in the Food Department, who was appointed by the Government of India to collate data from Central and Provincial sources for formulating proposals for food planning, was directed in August, 1945 to undertake a country-wide investigation of nutritional conditions, resources and possibilities. We hope and trust that he will, *inter alia*, assess the importance of sugar as an energising food, rich in carbo-hydrates and make recommendations for its utilisation in increasing quantities for improving the nutrition of the people of India.

Indian Sugar Industry's Remarkable Progress Must be Continued

The remarkable progress made by the industry within a short period of 15 years and the magnificent contribution it has made for urgent demands of sugar both on the civilian and defence accounts must meet with legitimate

appreciation by the public and the State. The industry has amply justified the measure of protection granted to it. The war has revealed the necessity of strengthening the position of this industry for any emergency which might crop up. The necessity of its development is also enhanced due to the requirement for millions in this country of an energising food, containing 100 per cent carbo-hydrate of which there is a short supply both in this country and the whole world at the present time. We hope and trust that the Government of the country will continue to take a living interest in the welfare of this industry and enable it to occupy an important place among the sugar-producing countries of the world, by spending adequately on research work with a view to ensure a progressive reduction in the cost of production of sugar. A well planned policy is essential for a thorough reorganisation of the industry in order to enable it to occupy its legitimate place in any scheme of post-war reconstruction.

We are convinced that the industry will expand considerably during the next decade,* and cater for (1) the greatly increased demands of both sugar and gur, which are bound to follow from any planned action for improving the economic condition of the people in India, and (2) also exports in response to the demands of neighbouring countries.

We are also sanguine that the State will evince the greatest care for safeguarding and supporting an industry which has stood by them during the war-period, and has supplied sugar at reasonable rates, without any attempt at profiteering or improving its own financial condition, in appreciation of the effects of such a policy on the welfare and well-being of the general consumer who has enabled the establishment of the industry, under the impetus of liberal tariff protection granted by the State, on the recommendation of a Tariff Board. The Government and the Legislatures are bound to have a soft corner for an industry which has responded so magnificently to the country's call in a period of emergency.

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* *Vide* the forthcoming publication of Mr. M. P. Gandhi, entitled, "Problems of Sugar Industry in India—Scope and Prospects of Re-organisation in the Post-War Period", being a comprehensive and critical survey of the industry since the grant of protection in 1932, and outlining the scope of optimum production and consumption of sugar in India in the post-war period, with a foreword by Sir Purshotamdas Thakurdas, K.B.E., C.I.E., pp. 375; price Rs. 12, to be published in October, 1945.

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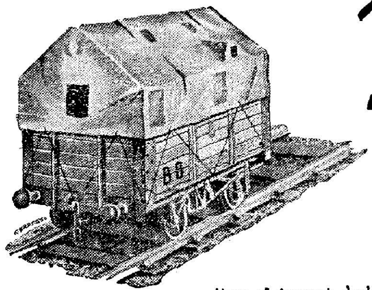

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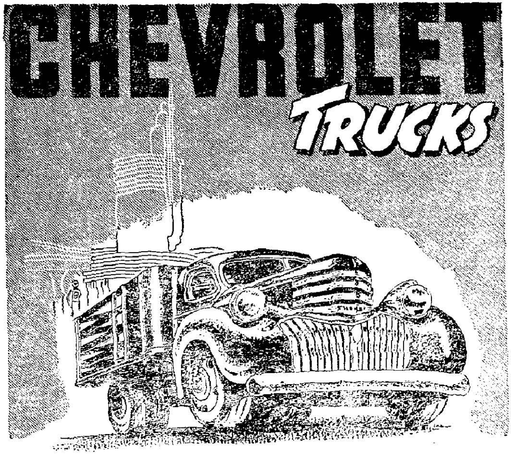

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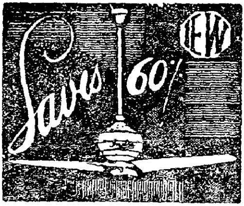

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LIST OF SUGAR MILLS IN INDIA AND BURMA

WORKING AND PROJECTED

(1944-45)

THOROUGHLY REVISED AND BROUGHT UP-TO-DATE

APPENDIX

Publishers: **GANDHI & CO.** (*Publishers*),
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FORT – BOMBAY

Telegrams: "KEEN", BOMBAY.

Telephone: *Office*: 25961; 24047 / *Res.*: 43926

DETAILED LIST OF SUGAR MILLS (VACUUM PAN) IN INDIA (1944-45)

(Including Gur Refineries)

EXPLANATION :—

Asterisk in the last but one column denotes mills which have also got Gur-refining plants.

† *Mills marked thus did not work during this season.*

‡ ,, ,, ,, *are reported to be under construction.*

S" = Sulphitation. "DS" = Double Sulphitation. "C" = Carbonatation. "DC" = Double Carbonatation.

Name of Factory, with full name and address of Managing Agents or Proprietors	*Location*	*District*	*Nearest Railway Station*	*Nearest Steamer Station*	*Daily cane-crushing capacity (tons)*	
BENGAL						
1. North Bengal Sugar Mills Co., Ltd. M/A. M/S. Soorajmull Nagarmull, 61, Harrison Road, Calcutta. Tele { Grams: Sugar, Calcut Phone: B. B. 6101.	Gopalpur. (Tel. Sugar, Gopalpur, Rajshahi.)	Rajshahi.	Gopalpur, B. & A. R.	Saraghat.	1250*	DS
2. Setabganj Sugar Mills, Ltd. M/A. M/S. Soorajmull Nagarmull, 61, Harrison Road, Calcutta. Tele { Grams: Sugar, Calcutta. Phone: B. B. 6101.	Setabganj. (Tel. Sugar, Setabganj, Dinajpur.)	Dinajpur.	Setabganj, Do.	Manihari.	800*	DS
3‡ Shree Radha Krishna Sugar Mills, Ltd. 138, Harrison Road, Calcutta. Tele { Grams: Sugarsweet, Cal. Phone: B. B. 2203.	Beldanga. (Tel. Sugarsweet, Beldanga.)	Murshidabad.	Beldanga, Do.	Lalgola, B. & A. R.	750*	DS
4. The Ramnugger Cane & Sugar Co., Ltd., M/A. M/S. Anderson, Wright & Co., 7, Wellesley Place, Calcutta. Tele { Grams: Amasis, Calcutta. Phone: Calcutta, 4300.	Plassey P. O.	Nadia.	Plassey, Do.	Do.	500/700	DS

5.	Carew & Co., Ltd., M/A. M/S. Lyall, Marshall & Co., 4, Fairlie Place, Calcutta.	Darsana.	Do.	Darsana, Do	...	1500	DS
6.	The Deshbandhu Sugar Mills, Ltd., M/A. The Industrial Agency, 58. Patuatuly, Dacca. (Tel. Deshbandhu, Dacca.)	Charsindur.	Dacca.	Ghorashal (Flag) Do.	Sultanpur-ghat.	250	DS
7†	Kaligunj Sugar Mills, Ltd., M/D. Seth Pannalal Kothari, Head Office: 168–B, Cotton Street, Calcutta. (Phone: B. B. 2789).	Kaligunj P. O. (Tel. Chinikul, B. & A. Arikhola.)	Dacca.	Arikhola, Do.	Ronaldsay Ghat, Kaliganj.	150	DS
8.	Das Sugar Corporation, Ltd., M/A. Dass Brothers, 30, Strand Road, Calcutta. Tele { Grams: Marvellous, Cal. Phone: Calcutta 3385 (3 lines).	P. O. Kishorganj. (Tel. Dayamayee, Kishorganj.)	Mymen-singh.	Kishorganj, Do.	...	400	DS
9.	Rajluxmi Sugar Mills, M/A. Kartick Bose & Sons, Dr. Bose's Laboratory, Ltd., 45, Amherst Street, Calcutta. Tele { Grams: Lactic, Calcutta. Phone: B. B. 415.	Maitra Bagan, Basirhat.	24 Parganas.	Maitra Bagan Ry. Siding, B. B. L. R.	...	75	S

BIHAR

1.	Sakri Sugar Factory of The Durbhanga Sugar Co., Ltd., Registered Office: Lohat P.O. Dist. Darbhanga. Tele { Grams: Sugar, Lohat. Phone: Darbhanga 53A.	Sakri P. O. (Tel. Sakri Factory, Sakri. Telephone: Darbhanga 53A.)	Darbhanga.	Sakri, O. & T. Rly.	Semaria Ghat.	700	S
2.	Lohat Sugar Factory of The Durbhanga Sugar Co., Ltd., Registered Office: Lohat P.O. Dist. Darbhanga. Tele { Grams: Sugar, Lohat. Phone: Darbhanga 53A.	Lohat P. O. (Tel. Lohat Factory, Lohat. Telephone: Darbhanga 53A.)	Do.	Pandaul, Do. (Goods Lohat Siding.)	Do.	1300	S

Name of Factory, with full name and address of Managing Agents or Proprietors	Location	District	Nearest Railway Station	Nearest Steamer Station	Daily cane-crushing capacity (tons)	
3. Ryam Sugar Co., Ltd., M/A. Begg, Sutherland & Co., Ltd., P. O. Box No. 21, Cawnpore. Tele { Grams: Begg, Cawnpore. Phone: Cawnpore 2331.	Ryam Factory P. O. (Tel. Ryam Factory, Tarsarai.)	Darbhanga.	Tarsarai, O. & T. Rly.	Semaria Ghat.	779	C
4. Samastipur Central Sugar Co., Ltd., M/A. Begg, Sutherland & Co., Ltd., P. O. Box No. 21, Cawnpore. Tele { Grams: Begg, Cawnpore. Phone: Cawnpore 2313.	Samastipur. (Tel. Central, Samastipur.)	Do.	Samastipur, Do.	Do.	795	S
5. New India Sugar Mills, Ltd., M/A. Cotton Agents, Ltd., (1) 52, Queensway, New Delhi. Tele { Grams: Cotagent, New Delhi Phone: New Delhi, 7231. (2) 8, Royal Exchange Place, Calcutta. Tele { Grams: Lucky, Calcutta. Phone: Calcutta, 562.	Hassanpur Rd., P. O. Hassanpur Sugar Mills, (Tel. "Birla", Hassanpur Sugar Mills.)	Do.	Hassanpur Road, Do.	Semaria Ghat.	1300	DS
6. Motipur Sugar Factory, Ltd., M/D. Seth Haji Abdul Rahim Oosman, 2, Rajmohan Street, Calcutta, Tele { Grams: Muslim, Calcutta. Phone: B. B. 2460.	Motipur. (Tel. Sattar, Motipur & Talahgur & Muzaffarpur, Tele. Muzaffarpur 65.)	Muzaffarpur	Motipur, Do.	Paleza Ghat.	1000/1300	DC
7. Champarun Sugar Co., Ltd., Barrah Factory, M/A. Begg, Sutherland & Co., Ltd., P. O. Box No. 21, Cawnpore. Tele { Grams: Begg, Cawnpore. Phone: Cawnpore 2313.	Bara-Chakia P. O. (Tel. Cane, Bara-Chakia.)	Champaran.	Chakia, Do.	Paleza Ghat.	932	C

8.	Belsund Sugar Co., Ltd., M/A. James Finlay & Co., Ltd., 1, Clive Street, Calcutta. Tele { Grams: Mercator, Calcutta. Phone: Calcutta, 4600.	Righa P. O. (Tel. Mitha, Righa.)	Do.	Righa,	Do.	Semaria Ghat	850	DS
9.	Shree Hanuman Sugar Mills, Ltd., M/A. Shree Hanuman Investment Co., Ltd., 178, Harrison Road, Calcutta. Tele { Grams: Hopwoda, Calcutta. Phone: B. B. 4502.	Motihari. (Tel. Sugar, Motihari. Telephone No. 36.)	Do.	Motihari,	Do.	Do.	780	DS
10.	The Sugauli Sugar Works, Ltd., M/D. Mr. Md. Hanif & Mr. Amjadali, 3 & 5 Rajmohan Street, Calcutta.	Sugauli. (Tel. Taj, Sugauli.)	Do.	Sugauli,	Do.	Do.	900	DS
11.	Motilal Padampat Sugar Mills Co., Ltd., H. O. Kamla Tower, Cawnpore. Tele { Grams: Motipat, Cawnpore. Phone: 2532–34.	Majhaulia. (Tel. Motipat, Majhaulia.)	Do.	Majhaulia,	Do.	Do.	1000	DS
12.	Champarun Sugar Co., Ltd., Chanpatia Factory, M/A. Begg, Sutherland & Co., Ltd., P. O. Box No. 21, Cawnpore. Tele { Grams: Begg, Cawnpore. Phone: Cawnpore 2313.	Chanpatia. (Tel. Chansuco, Chanpatia.)	Do.	Chanpatia,	Do.	Do.	870	S
13.	S. K. A. Sugar, Ltd., M/A. Dalmia Jain & Co., Ltd., Dalmianagar, Sahabad, Tele { Grams: Dalmiajain, Dalmianagar. Phone: 77, Gaya Special Line.	Pakri Lauriya P. O. (Tel. Dalmia Jain, Lauriya.)	Do.	Do.	Do.	Do.	500/600	DS
14.	Harinagar Sugar Mills, Ltd., M/A. Narayanlal Bansilal, 207, Kalbadevi Road, Bombay 2. Tele { Grams: Maryada, Bombay. Phone: Bombay 30841.	P. O. Harinagar Sugar Mills. (Tel. Maryada, Ramnagar, Champaran.)	Do.	Harinagar,	Do.	Do.	1400/1500	DS

	Name of Factory, with full name and address of Managing Agents or Proprietors	Location	District	Nearest Railway Station	Nearest Steamer Station	Daily cane-crushing capacity (tons)	
15.	The New Swadeshi Sugar Mills, Ltd., (1) M/A. Cotton Agents, Ltd., 8, Royal Exchange Place, Calcutta. Tele { Grams: Lucky, Calcutta. Phone: Calcutta 562. (2) 52, Queensway, New Delhi. Tele { Grams: Cotagent, New Delhi. Phone: New Delhi 7231. (3) M/A. Cotton Agents, Ltd., Imperial Bank Bldg., Bank St., Bombay. Tele { Grams: Lucky, Bombay. Phone: Bombay 27046.	Narkatiaganj. (Tel. Birla, Narkatiagunj.)	Champaran.	Narkatiaganj, O. & T. Rly	Semaria.	900	DS
16.	Ganga Devi Sugar Mills, Ltd., M/A. Marwari Brothers, Naraipore, Bagaha P.O. (Tele. Ganga, Bagaha.)	Naraipur P. O.	Do.	Bagaha, Do.	Do.	650	DS
17.	Gaya Sugar Mills, Ltd., Managing Director, Mr. Guru Sharan Lal.	Guraru. P. O. Guraru Mills. (Tel. Sugarmills. Telephone: Gaya 78.)	Gaya	Guraru, E.I.R.	Patna	850	DS
18.	The South Bihar Sugar Mills, Ltd., M/A. N. K. Jain & Company, Ltd., 9, Clive St., Calcutta. Tele { Grams: Inredlead, Calcutta. Phone: Calcutta 5977.	Bihta. (Tel. Sugar, Bihta. Phone: Dinapore 130.)	Patna.	Bihta, Do.	Digha.	1200	DS
19.	Mohini Sugar Mills, Ltd., M/A. M/s. Karamchand Thapar & Bros. Ltd., 5, Royal Exchange Place, Calcutta. Tele { Grams: Spiritual, Calcutta. Phone: Cal. 2333.	Bikramgunj. P. O. Bikramgunj. (Tel. Spiritual, Bikramganj.)	Shahabad.	Bikramganj, A. S. L. Rly.	Sinha 40 Miles Buxar 40 Miles.	700	DS

20.	Rohtas Industries, Ltd., M/A. Dalmia Sabharwal Jain & Co., P. O. Dalmianagar (Shahabad.) Tele { Grams: Dalmiya Jain, Dalmianagar. Phone: Gaya 77.	P. O. Dalmia-nagar.	Do.	Debri-on-Sone, E. I. R.	Buxar.	1800	DC DS
21.	Ganga Deshi Sugar Factory, Ltd., M/D. Behari Lal, Buxar, (Tel. Sugar, Buxar.)	Buxar. P. O. Buxar. Gajadharganj.	Shahabad.	Buxar, Do.	Buxar.	100*	
22.	Sitalpore Sugar Works, Ltd. M/D. Ghosh & Dutt, 93, Dharamtolla Street, Calcutta, and Indian Press Buildings, Allahabad. (Local Office: Sahibganj, Chapra).	Sitalpore. (Tel. Kamala, Sitalpore. O. & T.)	Saran.	Sitalpore, O. & T. Rly.	Baghi.	800	DS
23.	Cawnpore Sugar Works, Ltd., Marhowrah Factory, M/A. Begg, Sutherland & Co., Ltd., P. O. Box No. 21, Cawnpore. Tele { Grams: Begg, Cawnpore. Phone: Cawnpore 2313.	Marhowrah (Tel. Marsuco, Marhowrah.)	Do.	Marhowrah, Do.	Revelganj	939	DC
24.	Maharajganj Sugar Factory, Prop. M/S. Tulsiram Bhagwandas, 61, Keshab Chandra Sen Street, Calcutta.	Maharajganj.	Do.	Maharajganj, Do.	Do.	400	
25.	The Behar Sugar Works of the Industrial Corporation, Ltd., M/A. Bakubhai Ambalal & Co., P. O. Box 28, Ahmedabad. Tele { Grams: Indus, Ahmedabad. Phone: Ahmedabad 5001. H. O. Bastion Road, Fort, Bombay. Tele { Grams: Indus, Bombay. Phone: Bombay 22497.	Pachrukhi (Tel. Indus, Pachrukhi.)	Do.	Pachrukhi Do.	Palezaghat,	1100	DC

No.	Name of Factory, wi... full name and address of Managing Agents or Proprietors	Location	District	Nearest Railway Station	Nearest Steamer Station	Daily cane-crushing capacity (tons)	
26.	New Savan Sugar & Gur Refining Co., Ltd., M/A. Andrew Yule & Co., Ltd., 8, Clive Row, Calcutta. Tele { Grams: Yuletide, Calcutta. Phone: Calcutta 5282.	Siwan. (Tel. Sugar, Siwan.)	Saran.	Savan, O. & T. Rly.	Savan O. A.	800	DS
27.	Indian Sugar Works, R. C. Pandit, Esq., Receiver, P. O. Siwan, Dist. Saran. (Tel, Indian, Siwan.)	Siwan	Do.	Do. Do.	Do.	700	DS
28†	Siwan Deshi Sugar Factory, Prop. Messrs. Noori Mian & Co., Bhatni (Gorakhpur.)	Do.	Do.	Do. Do.	Do.	Gur only.	
29.	Bharat Sugar Mills, Ltd., M/A. Cotton Agents, Ltd., (1) 8, Royal Exchange Place, Calcutta. Tele { Grams: Lucky, Calcutta. Phone: Calcutta 562. (2) 52, Queensway, New Delhi. Tele { Grams: Cotagent, New Delhi. Phone: New Delhi 7231.	Sidhwalia. (Tel. Birla, Sidhwalia.)	Do.	Sidhwalia, Do.	Revelganj and Palezaghat.	650	DS
30.	Sasa Musa Sugar Works, Ltd., M/A. Mousell & Co., Ltd., P. O. Box 2164, Calcutta. (Tel. Diogenes, Calcutta.)	Sasa Musa. (Tel. Factory Sasa Musa.)	Do.	Sasa Musa, Do.	Palezaghat.	600	DS
31.	S. K. G. Sugar, Ltd., M/A. Dalmia Jain & Co., Ltd., P. O. Dalmianagar, Dist. Shahabad. Tele { Grams: Dalmiajain, Dalmianagar. Phone: 77. Gaya Special Line.	Hathua, P. O. Mirganj. Tel. "Dalmiajain", Mirganj, Phone: Hathua 4 & 5.	Do.	Hathua, Do.	Palezaghat.	1400/1500	DS

32.	The Vishnu Sugar Mills, Ltd., M/A. Bilasrai Banarsilal & Co., Agakhan Building, Dalal Street, Fort, Bombay. (Tel. Brijbilas, Bombay.)	Gopalganj. (Tel. Vishnu, Gopalganj.)	Do.	Harkhua,	Do.	Revelganj	800	DS

UNITED PROVINCES

1.	Purtabpore Co., Ltd., M/A. Begg, Sutherland & Co., Ltd., P. O. Box No. 21, Cawnpore. Tele { Grams: Begg, Cawnpore. Tele { Phone: Cawnpore 2313.	Mairwa. (Tel Sucrose, Mairwa.)	Gorakhpur.	Mairwa,	Do.	Revelganj.	720	DC
2.	Noori Sugar Works, Prop. Noori Mian & Co., Bhatni. (Tel. Noori Bhatni.)	Bhatni.	Do.	Bhatni,	Do.	Barhaj,	726	DS
3.	Shree Sitaram Sugar Co., Ltd., M/A. Karamchand Thapar & Bros., Ltd., 5, Royal Exchange Place, Calcutta. Tele { Grams: Spiritual, Calcutta. Tele { Phone: Calcutta. 2331.	Baitalpur, P. O. Deoria. (Tel. Spiritual, Baitalpur, O. & T.)	Do.	Baitalpur,	Do.	Barhaj.	861	DS
4.	Cawnpore Sugar Works, Ltd., Gauri Factory, M/A. Begg, Sutherland & Co., Ltd., P. O. Box No. 21, Cawnpore. Tele { Grams: Begg, Cawnpore. Tele { Phone: Cawnpore 2313.	Gauribazar, P. O. (Tel. Gaursuco, Gauribazar.)	Do.	Gauribazar, O. & T. Rly.		Barhaj (30 miles)	738	DS
5.	Deoria Sugar Mills, Ltd., M/A. Karamchand Thapar & Bros., Ltd., 5, Royal Exchange Place, Calcutta. Tele { Grams: Spiritual, Calcutta. Tele { Phone: Calcutta 2331.	Deoria. (Tel. Spiritual, Deoria.)	Do.	Tahsil Deoria, O. & T. Rly.		Do.	900	DS
6.	Sind National Sugar Mills, Ltd., M/A. The Sindhi & Co., Ltd., Deoria, Dist. Gorakhpur.	Deoria. (Tel. National, Deoria.)	Do.	Do.	Do.	Barhaj Bazar.	351	DS

No.	Name of Factory, with full name and address of Managing Agents or Proprietors	Location	District	Nearest Railway Station	Nearest Steamer Station	Daily cane-crushing capacity (tons)	
7.	Saraya Sugar Factory, Managing Partner, S. Surendra Singh Majithia, Sardarnagar, (Tel. Majithias, Sardarnagar).	Sardarnagar.	Gorakhpur.	Sardarnagar, O. & T. Rly.	Barhaj.	2129	DS
8.	Diamond Sugar Mills, Ltd., M/A. Murarka & Sons, Ltd., 4-E, Dalhousie Square, Stephen House, Calcutta. Tele { Grams: Canesugar, Calcutta. Phone: Calcutta 1003 & 1349.	Pipraich. (Tel. Diamond, Pipraich, O. & T.)	Do.	Pipraich, Do.	Do.	700/800	DS
9.	*Pipraich* Sugar Mills, Ltd., M/A. Mr. Mohammad Ashfaq, B.A., General Manager, (Telephone: Gorakhpur 25.)	Pipraich. (Tel. Pipraich. Telephone: Gorakhpur 25.)	Do.	Pipraich, Do.	Do.	300	S
10.	The Shankar Sugar Mills, Ltd., M/A. Inderchand Hariram, Captainganj.	Captainganj. (Tel. Shankarji, Captainganj.)	Do.	Captainganj, Do.	Do.	896	DS
11.	The Punjab Sugar Mills, Co., Ltd., Managers, Messrs. Narang Bros. & Co., Ltd., 3. *Montgomery Road*, Lahore. Tele { Grams: Narang, Lahore. Phone: Lahore 3717.	Ghughli. (Tel. Factory, Ghughli R. S.)	Do.	Ghughli, Do.	Do.	782	DS
12.	Mahabir Sugar Mills, Ltd., M/A. Dwarkadas Baijnath, Siswa Bazar.	Siswa Bazar. (Tel. Mahabirji, Siswa Bazar.)	Do.	Siswa Bazar, Do.	Do.	620	DS
13.	Ishwari Khetan Sugar Mills, Ltd., M/A. Devidutt Surajmull, Padrauna, Gorakhpur. Tele { Grams: Khetan, Padrauna. Phone: Padrauna 3.	Lakshmiganj (Tel. Khetan, Lakshmiganj.)	Do.	Lakshmiganj, Do.	Do.	500*	S

14.	The Vishnu Pratap Sugar Works, Ltd., M/D. Raja Bahadur Raja Braj Narain Singh, C.B.E., Padrauna Raj. (Tel. Sugar, Rajabazar, Khadda.)	Khadda.	Do.	Khadda,	Do.	Do.	761	DS
15.	The Lakshmi Devi Sugar Mills, Ltd., M/A. Messrs. Agarwal & Co., P. O. Chhitauni. (Telephone: Padrauna 3.)	Chhitauni.	Do.	Chhitauni,	Do.	Do.	400/600	DS
16.	The Ramkola Sugar Mills, Co., Ltd., H. O. Nawashahr (Hazara), *Via* Abbottabad. Tele { Grams: Timber, Nawashahr, Hazara. Tele { Phone: Abbottabad 31.	Ramkola, (Tel. Sugar. Ramkola, Tele: Padrauna 18.)	Do.	Ramkola,	Do.	Revelganj.	900	DS
17.	Maheshwari Khetan Sugar Mills, Ltd., M/A. Messrs. Devidutt Chaturbhuj, P. O. Ramkola. (Tel. Khetan, Ramkola.)	Ramkola. (Telephone: Padrauna 4.)	Do.	Ramkola,	Do.	Barhaj.	777	DS
18.	Padrauna Rajkrishna Sugar Works, Ltd., M/D. Kr. Rudra Pratap Narain Singh, "Jagdis Garh", Padrauna. Tele { Grams: Krishna, Padrauna. Tele { Phone: Padrauna 14.	Padrauna. (Telephone No. 6.)	Do.	Padrauna,	Do.	Do.	800	S
19.	Jagadish Sugar Mills. Ltd., M/A. Raja Bahadur Brijnarayan Singh & Co., Padrauna. Tele { Grams: Jagadish, Padrauna. Tele { Phone: Padrauna 15.	Kathkuiyan, Padrauna P. O.	Do.	Kathkuiyan,	Do.	Do.	400	DS
20.	The United Provinces Sugar Co., Ltd., M/A. James Finlay & Co., Ltd., 1, Clive Street, Calcutta. Tele { Grams: Mercator, Calcutta. Tele { Phone: Calcutta 4600.	Seorahi P. O. (Tele. Chini. Seorahi)	Do.	Tamkohi Road,	Do.	Do.	925	DS
21.	The Madho Kanhaya Mahesh Gauri Sugar Mills, Ltd.	Munderwa. (Tel. Jagdis, Munderwa.)	Basti.	Munderwa,	Do.	Do.	600/700	DS

	Name of Factory, with full name and address of Managing Agents or Proprietors	Location	District	Nearest Railway Station	Nearest Steamer Station	Daily cane-crushing capacity (tons)	
22.	Ganesh Sugar Mills, Ltd., M/A. Poddar Jaipuria & Co., 51, Vivekananda Road, Calcutta. Tele { Grams: Jaipuria, Calcutta. Phone: Burra Bazar 4100 & 5557.	P. O. Anandnagar, (Tele. Ganesh Pharenda, O. & T.)	Basti.	Pharenda, O. & T. Rly.	Barhaj.	900	DS
23.	Ledi Sugar Factory, Lessees: EL.—Baha' Bhargava & Co., P. O. Nichlaul (Gorakhpur.)	Ledi P O. Nichlaul, (Tele. "Shyama", Siswa Bazar.)	Do.	Siswa Bazar, Do.	Do.	80	DS
24.	Basti Factory of The Basti Sugar Mills Co., Ltd., M/A. Narang Bros. & Co., Ltd., 3, Montgomery Road, Lahore. Tele { Grams: Narang, Lahore. Phone: Lahore 4614.	Basti. (Tel. Sugar Factory, Basti.)	Do.	Basti, Do.	Ajodhya Ghat.	875/900	DC
25.	Walterganj Factory of The Basti Sugar Mills Co., Ltd., M/A. Narang Bros. & Co., Ltd., 3, Montgomery Road, Lahore. Tele { Grams: Narang, Lahore. Phone: Lahore 4614.	Walterganj, (Tel. Sugar, Walterganj.)	Do.	Walterganj, Do.	Do.	700/800	DS
26.	Barhni Sugar Mills, Proprietors: The Delhi Cloth and General Mills Co., Ltd., Delhi. Tele { Grams: Yarn, Delhi. Phone: Delhi 5243.	Barhni P. O. Ramduttganj. (Tel. Sugar, Barhni, O. & T.)	Do.	Barhni, Do.	Barhni.	800/1000	DS
27.	Shree Anand Sugar Mills, Ltd., M/A. Agarwal Sugar Agents, Ltd., 5, Vivekananda Road, Calcutta. Tele { Grams: Jaipuria, Calcutta. Phone: B. B. 4100 & 5557.	Khalilabad. (Tele. Shreeanand, Khalilabad.)	Do.	Khalilabad, Do.	Do.	650	DS

28.	Shree Sheodayal Sugar Mills, P. O. Sheodayalganj (Gonda). Tel. Mansinghka, Nawabganj (Gonda).	P. O. Sheodayal-ganj.	Gonda.	Katra,	Do.	Do.	100/150	DS
29.	The Seksaria Sugar Mills, Ltd., M/A. Govindram Ramnath & Co., Seksaria Chambers, 139, Medows Street, Fort, Bombay. Tele { Grams: Fairtrade, Bombay. Phone: Bombay 34627.	Babhnan. (Tel. Seksariaco, Babhnan.)	Do.	Babhnan,	Do.	Do.	800	DS
30.	Nawabganj Sugar Mills Co., Ltd., M/A. Narang Bros. & Co., Ltd., 3, Montgomery Road, Lahore. Tele { Grams: Narang, Lahore. Phone: Lahore 4614 and 3717.	Nawabganj. (Tel. Sugar Mills, Nawabganj, Gonda.)	Do.	Nawabganj,	Do.	Barhaj.	1850	DS
31.	Balrampur Sugar Co., Ltd., Balrampur Factory, M/A. Begg, Sutherland & Co., Ltd., P. O. Box No. 21, Cawnpore. Tele { Grams: Begg, Cawnpore. Phone: Cawnpore 2313.	Balrampur. (Tel. Balsuco, Balrampur. Telephone: Balrampur 37.)	Do.	Balrampur,	Do.	Do.	768	DS
32.	Balrampur Sugar Co., Ltd., Tulsipur Factory, M/A. Begg, Sutherland & Co., Ltd., P. O. Box No. 21, Cawnpore. Tele { Grams: Begg, Cawnpore. Phone: Cawnpore 2313.	Tulsipur. (Tel. Talsuco, Tulsipur.)	Do.	Tulsipur,	Do.	Ajodhya Ghat.	746	S
33.	Seth Ramchand & Sons Sugar Mills, Lucknow.	Aishbagh. (Tel. Malaco, Lucknow. Phone: Lucknow 605.)	Lucknow.	Aishbagh,	E. I. R.	Do.	793*	DS
34.	Ratna Sugar Mills Co., Ltd., M/A. Kashiprasad & Co., 107, Streat Field Road, Benares City. (Tel. Ratna, Benares.)	Shahganj, (Tel. Ratna. Shahganj, Jaunpur.)	Jaunpur.	Shahganj,	Do.	Balia.	751	DS

	Name of Factory, with full name and address of Managing Agents or Proprietors	Location	District	Nearest Railway Station	Nearest Steamer Station	Daily cane-crushing capacity (tons)	
35.	R. B. Seth Lachhmandass Mohanlal & Sons Sugar Mills, Head Office: Shahalmi Gate, Lahore. Tele { Grams: Laxmansons. Tele { Phone: Lahore 3709.	P. O. Jarwal Rd., (Tel. Laxmansons, Jarwal Road. Telephone: Gonda 16.)	Bahraich.	Jarwal Rd., E.I.R.	Ajodhya Ghat.	860	DS
36.	The Burhwal Sugar Mills Co., Ltd., Managing Directors: Durga Sanker Dayaram, Collectorganj, Cawnpore. Tele { Grams: Ganeshji, Cawnpore. Tele { Phone: Cawnpore 2758.	Burhwal. (Tel. Ganeshji, Burhwal.)	Barabanki.	Burhwal, Do.	Do.	650*	DS
37.	Shree Krishna Deshi Sugar Works, Lessees: J. Gupta & Co., Azmatgarh Palace, Benares. Tele { Grams: Shree, Benares. Tele { Phone: Benares 151.	Jhusi. (Tel. Factory, Jhusi, Phone: Allahabad 269.)	Allahabad.	Jhusi, O. & T. Rly.	Do.	400*	DS
38.	§Tribeni Deshi Sugar Works, Lessee: L. Jainarain Prashad Agarwal, Naini. (Tel. Madho, Naini).	Naini.	Do.	Naini, E.I.R. & G.I.P.R.	Buxar.	200*	S
39.	The Lakshmi Sugar & Oil Mills, Ltd., M/D. Rai Bahadur Sheth Bansidhar. Head Office: Hardoi.	Hardoi. (Tel. Lakshmi.)	Hardoi.	Hardoi, E.I.R.	Do.	1565	DS
40.	The Seksaria Biswan Sugar Factory, Ltd., M/A. *Govindram Bros., Ltd.,* Seksaria Chambers, 139, Medows St., Fort, Bombay. (Tel. "Fairtrade," Bombay.)	Biswan. (Tel. Factory, Biswan.)	Sitapur.	Biswan, O. & T. Rly.	Do.	1200	Double Tandem
41.	The Lakshmiji Sugar Mills Co., Ltd., M/D. Seth Kishorilal Saheb, Maholi (Dt. Sitapur).	Maholi. (Tel. Lakshmi, Maholi. Phone: Sitapur 5.)	Do.	Maholi, E.I.R.	Buxar.	1250	DS

§ Only Gur-refining plant is working.

42.	The Oudh Sugar Mills, Ltd., M/A. Cotton Agents, Ltd., 1. Imperial Bank Bldg., Bank St., Bombay. Tele { Grams: Lucky, Bombay. Phone: Bombay 27046 & 33745 } 4 lines. 2. 8, Royal Exchange Place, Calcutta. Tele { Grams: Lucky, Calcutta. Phone: Calcutta 562. 3. 52, Queensway, New Delhi. Tele { Grams: Cotagent, New Delhi. Phone: New Delhi 7231.	Hargaon. (Tel. Osmills, Hargaon Sugar Mills. Telephone : Sitapur 2.)	Sitapur.	Hargaon, O. & T. Rly.	Ajodhya Ghat.	1925	DS
43.	Aira Sugar Factory, P. O. Aira Estate, Dist. Kheri, U. P.) Prop.: Indra Singh & Sons. Tele { Grams: Indra Singh, Tatanagar. Phone: Tatanagar 18.	Khamaria, (Tel. "Aira", Lakhimpore-Kheri.)	Kheri.	Lakhimpur, O. & T. Rly.	Bahram Ghat.	650	DS
44.	The Hindusthan Sugar Mills, Ltd., M/A. Bachhraj & Co., Ltd., Jehangir Wadia Building, 51, Mahatma Gandhi Road, Fort, Bombay. Tele { Grams: Shree, Bombay. Phone: Bombay 30027.	Golagokarannath. (Tel. Shree, Golagokarannath. Telephone No. 1, Golagokarannath.)	Do.	Golagokaran-nath. O. & T. Rly.	Do.	1950	DS
45.	Rosa Sugar Works & Distillery of Carew & Co., Ltd., M/A. Lyall Marshall & Co., 4, Fairlie Place, Calcutta. (Tel. Ghat, Calcutta.)	Rosa. (Tel. Carew, Rosa.)	Shahjahan-pur.	Rosa Jn., E.I.R.	...	700	DS
47.	The Kesar Sugar Works, Ltd., M/A. Kilachand Devchand & Co., 45/47, Apollo Street, Bombay. Tele { Grams: Seeds, Bombay. Phone: Bombay 26506.	Baheri. (Tel. Kesar, Baheri. Telephone No. 125, Bareilly Exchange.)	Bareilly.	Baheri, O. & T. Rly.	Barhaj.	1280	DS

	Name of Factory, with full name and address of Managing Agents or Proprietors	Location	District	Nearest Railway Station	Nearest Steamer Station	Daily cane-crushing capacity (tons)	
47.	H. R. Sugar Factory, Ltd., M/D. Sahu Jagdish Prasad Sahib, Nekpur, Bareilly.	Bareilly. (Tel. Sugar. Bareilly. (Phone: 33.)	Bareilly.	Bareilly Jn., E.I.R. & O. & T. Rly.	Buxar.	902	DS
48.	L. H. Sugar Factories and Oil Mills, Ltd., Pilibhit, M/D. Raja Radha Raman, Pilibhit. (Telephone: Pilibhit 32 and 26.)	Pilibhit. (Tel. Crystal, Pilibhit. Phone: Pilibhit 32.)	Pilibhit.	Pilibhit, Do.	Barhaj.	1750 (Double Tandem).	S
49.	Upper Ganges Sugar Mills, Ltd., M/A. Cotton Agents, Ltd., (1) 8, Royal Exchange Place, Cal. Tele { Grams: Lucky, Calcutta. Phone: Calcutta 592. (2) 52, Queensway, New Delhi. Tele { Grams: Cotagent, New Delhi. Phone: New Delhi, 7231.	Sheohara. (Tel. Birla, Sheohara.)	Bijnor.	Sheohara, E.I.R.	Buxar.	1300	DS
50.	Seth Shiv Prasad Banarsidas Sugar Mills, Superintending Partner: Seth Benarsidas Sahib, Sahibabad, P. O. Ghaziabad, Dist. Meerut. Residential Prop.: Seth Kundanlal Aggarwal, Bijnor. (Telegrams: Jagmag, Ghaziabad.)	Bijnor. (Tel. Aggarwal, Bijnor.)	Do.	Bijnor, Do.	Do.	1100/1200	DS
51.§	The Ganga Sugar Works, M/A. The Ganga Glass Works, Balawali, Bijnor.	Balawali.	Do.	Balawali, Do.	...	100 15/2	(Cane) (Gur)
52.	The Dhampur Sugar Mills, Ltd., M/D. Kr. Ram Autar Saheb, Ramniketan Alamgirigunj, Bareilly. (Telephone: Bareilly 159.)	Dhampur (Tel. Sugarmills, Dhampur).	Do.	Dhampur, Do.	Buxar.	900	DS

§ Factory is not working since 1937, it is not certain whether it will work at all.

53.	The Vijai Sugar Corporation Ltd., M/G. Lala Budhram Kuthiala, Doiwala, E. I. R.	Doiwala. (Tel. Vijai, Doiwala. Tel: Dehra Dun 564.)	Dehra Dun.	Doiwala,	Do.	Karachi.	400*	DC/DS
54.	The Ganga Sugar Corporation, Ltd., College Road, Rawalpindi, Chairman: R.B. L. Isher Dass, M.A., LL.B., M.L.A., Tele { Grams: Gansuco, Rawalpindi. Phone: Rawalpindi 641.	Deoband. (Tel. Sugar, Deoband. Telephone: Deoband 23.)	Saharanpur.	Deoband, N.W.R.		Buxar.	600	DC
55.	Rai Bahadur Narain Singh Sugar Mills, Ltd., M/D. S. B. Sardar Ranjit Singh, 2, Curzon Road, New Delhi. (Telephone: Delhi 7617.)	Lhaksar. (Tel. Sugar, Lhaksar, Jn., E. I. Tele: Roorkee 35.)	Do.	Lhaksar, E.I.R.		...	1250	DS
56.	The Lord Krishna Sugar Mills, Ltd., Regd. Office: 17, Lawrence Road, Lahore, M/D.: Seth Benarsi Dass Gupta. Tele { Grams: Bindal, Lahore. Phone: Lahore 2865.	Saharanpur. (Tel. Krishna, Saharanpur. Telephone: Saharanpur 3 and 3A.)	Do.	Saharanpur, N.W.R.		Do.	1250	DS
57.	Upper Jumna Swadeshi Sugar Mills Co., Ltd., M/A. Hariraj Swarup Rajendralal & Brothers, Muzaffarnagar. Tele { Grams: Swesugmill, Muzaffarnagar. Phone: Muzaffarnagar 32.	Mansurpur. (Tel. Swesugmill, Mansurpur. Telephone: Mansurpur 44.)	Muzaffarnagar.	Mansurpur,	Do.	Karachi.	1000/1200	DS
58.	Upper India Sugar Mills, Ltd., M/D. P. Srikrishna Deva Bhargava, M/A. Mitra Mandal, Khatauli. Tele { Grams: Sugar, Khatauli. Phone: Muzaffarnagar 96.	Khatauli. (Telephone: Muzaffarnagar 96.)	Do.	Khatauli	Do.		1149/1400	DS
59.	Amritsar Sugar Mills Co., Ltd., M/A. Amar Singh & Co., Amritsar (Punjab). Tele { Grams: Refiners, Amritsar. Phone: Amritsar 597.	Rohanakalan. P.O. Rohanamills. (Tel. Refiners, Muzaffarnagar. Phone: Muzaffarnagar 41).	Do.	Rohanakalan, Do.		Buxar.	1200	DS

	Name of Factory, with full name and address of Managing Agents or Proprietors	*Location*	*District*	*Nearest Railway Station*	*Nearest Steamer Station*	*Daily cane-crushing capacity (tons)*	
60.	Upper Doab Sugar Mills, Ltd., M/A. Hariraj Swarup, Rajendralal Debi Prasad & Brothers, Muzaffarnagar. Tele { Grams : Swesugmill, Muzaffarnagar. Phone : Muzaffarnagar 85.	Shamli. (Tel. Sugarmills, Shamli. Telephone : Shamli 32.)	Muzaffarnagar.	Shamli, S.S.L.R.	Bombay	1400	DS
61.	Diwan Sugar Mills, Prop. Messrs. Dhanpatmal Diwanchand, Lyallpur (Punjab). (Tel. Dhanpat, Lyallpur.)	Sakhoti-Tanda. (Tel. Diwanmills, Sakhoti-Tanda, N.W.R. Phone : Muzaffarnagar 77.)	Meerut.	Sakhoti-Tanda, N.W.R.	Do.	716*	DS
62.	Daurala Sugar Works, Prop. The Delhi Cloth and General Mills Co., Ltd., Delhi. Tele { Grams : Yarn, Delhi. Phone : Delhi 5243.	Daurala. (Telephone : Meerut, 259.)	Do.	Daurala, Do.	...	1250	DC
63.	Jaswant Sugar Mills, Ltd., M/A. M/s. Associated Industrial Development Co., Ltd., Dalhousie Square, East, Calcutta. Tele { Grams : Bestluck. Phone : Calcutta 5660.	Meerut City. (Telegrams : Godfearing. Telephone : Meerut 230.)	Do.	Meerut City, Do.	Buxar.	650	DS
64.	Ram Luxman Sugar Mills, Managing Props. : M/s. Dinanath Nanakchand, Chawri Bazar, Delhi. Tele { Grams : Ensey, Delhi. Phone : 5004. and R. S. Chiranjilal & Sons, Saddar Bazar, Delhi. Tele { Grams : Consult, Delhi. Phone : 5011.	Mohiuddinpur. (Telegrams : Sugarmills, Mohiuddinpur, N.W.R. Telephone : Meerut 365.)	Do.	Mohiuddinpur, Do.	Do.	600/800*	DS

65.	The Modi Sugar Mills, Ltd., M/A. Rai Bahadur Multanimal & Sons, Ltd., Modinagar.	Modinagar, Begamabad. (Tel. Modimills, Begamabad. Phone : Meerut 226)	Do.	Begamabad, Do.	Do.	700/1000	DS
66.	Simbhaoli Sugar Mills, Ltd., Chairman : Lt. Sardar Raghbir Singh Sandhanwalia, O.B.E. Tele { Grams: Sandhanwalia, Simbhaoli, E.I.R. Phone: Hapur 77.	Simbhaoli, P. O. Baksar	Do.	Simbhaoli E.I.R.	...	735	DS
67.	The Gokulnagar Sugar Mills Co., Ltd., M/A. Sir Gokulchand Narang & Co., Ltd., 3, Montgomery Road, Lahore. Tele { Grams : Narang, Lahore. Phone : Lahore 4614.	Kichha. (Tel. Sugar Factory, Kichha.)	Naini-Tal.	Kichha, O. & T. Rly.	Burhaj.	800	DS
68.	L. H. Sugar Factories & Oil Mill, Ltd., M/D. Raja Radha Raman Saheb, Pilibhit.	Kashipur. (Tel. Crystal, Kashipur.)	Do.	Kashipur, Do.	Do.	650	DS
69.	The Neoli Sugar Factory, Prop. : The Saraswati Sugar Syndicate, Ltd., M/A. The Neoli Syndicate, Neoli, Dt. Etah. (Telegram : Sucrose, Neoli (Etah).	Manpore Nagaria. P. O. Neoli. (Tel. Sucrose, Neoli, Etah.)	Etah.	Manpore Nagaria, Do.	Do.	873	DS
70.	The Standard Refinery & Distillery, Ltd., M/A. Karam Chand Thapar & Bros., 5, Royal Exchange Place, Calcutta. Tele { Grams : Spiritual. Phone : Calcutta 2331.	Unao.	Unao.	Unao, E.I.R. & O. & T. Rly.	Buxar.	Gur only 75	
71.	Kamlapat Motilal Gutaiya Sugar Mills, Prop. : Messrs. Kamlapat Motilal, P. B. 69, Cawnpore. Tele { Grams : Lalmoti, Cawnpore. Phone : 2573.	Cawnpore. (Phone : Cawnpore 2315.)	Cawnpore.	Rawatpur, B. B. & C. I. R. K. M. G. Sugar Mills Siding, E. I. R.	Do.	Cane 1000 Gur 100	
72.	Experimental Sugar Factory, Imperial Institute of Sugar Technology.	Nawabganj.	Do.	Rawatpur, B.B. & C.I.R.	Do.	34*	

No.	Name of Factory, with full name and address of Managing Agents or Proprietors	Location	District	Nearest Railway Station	Nearest Steamer Station	Daily cane-crushing capacity (tons)	
73.	Cawnpore Sugar Works, Ltd., Cawnpore Refinery. M/A. Begg, Sutherland & Co., Ltd., P. O. Box No. 21, Cawnpore. Tele { Grams : Begg, Cawnpore. Phone : Cawnpore 2313.	Cooperganj.	Cawnpore.	Cawnpore, E.I.R.	Buxar.	Gur only 73	
74.	Baijnath Balmakund Sugar Mills, Prop. : Mrs. Bankey Beharilal Singhania, Lalbankey Street, Cawnpore. Tele { Grams : Lalbankey. Phone : Cawnpore. 2489.	Anwarganj.	Do.	Anwarganj, B.B. & C.I.R.	Burhaj.	Gur only 27	
75.	Amroha Sugar Factory, Prop. The Ganesh Flour Mills Co., Ltd., Delhi. Tele { Grams : Ganesh Mill, Delhi. Phone : Delhi 6371.	Amroha. (Tel. Ganeshmill, Amroha.)	Moradabad.	Amroha, E.I.R.	Buxar.	500	DS
76.	The Ajudhia Sugar Mills, Prop. : Lakshmiji Sugar Mills Co., Ltd., 24, Mozang Road, Lahore. Tele { Grams : Seth, Lahore. Phone : Lahore 2467.	P. O. Raja-Ka-Sahaspur. (Tel. Sugarmill, Moradabad. Phone : (1) Moradabad 79. (2) Moradabad 98. (Raja-Ka-Sahaspur Special line.)	Do.	Raja-Ka Sahaspur. Do.	Do.	1305	DS

PUNJAB

No.	Name of Factory, with full name and address of Managing Agents or Proprietors	Location	District	Nearest Railway Station	Nearest Steamer Station	Daily cane-crushing capacity (tons)	
1.	The Gujranwala Sugar Mills, Co., Ltd., M/A. Narang Bros., Ltd., 3, Montgomery Road, Lahore. Singh & Co., Ltd., Civil Station, Gujranwala. Tele { Grams: Narang, Lahore. Phone: Lahore 2499.	Rahwali. (Tel. Sugarmill, Rahwali. Telephone 64.)	Gujranwala.	Rahwali, N.W.R.	Karachi	300/450	DS

2.	†The Amritsar Sugar Mills, Co., Ltd., M/A. M/S. Amarsingh & Co., P. O. Khalsa College, Amritsar. Phone 597.	Gr. Trunk Road, Amritsar. (Tel. Refiners, Amritsar)	Amritsar.	Amritsar,	Do.	Do.	Gur only 42 tons.	
3.	Saraswati Sugar Mills, M/A. The Abdullapur Syndicate Ltd., Abdullapur. M/D. Mr. D. D. Puri. Prop.: The Saraswati Sugar Syndicate, Ltd., 4, McLeod Road, P.O. Box No. 255, Lahore. Tele { Grams: Sucrose, Lahore. Phone: Lahore 3034.	P. O. Abdullapur. (Telegram: Saraswati, Abdullapur. Telephone: Jagadhari 27.)	Ambala.	Jagadhari,	Do.	Buxar.	400	DC & DS
4.	†The Pattoki Sugar Works, Pattoki, Prop.: Sahu Ram Swarup Ram Bharose Lal Bankers, Civil Lines, Bareilly, U. P.	Pattoki.	Lahore.	Pattoki,	Do.	...	100	

ORISSA

1.	Aska Sugar Works & Distillery, Prop.: Messrs. Damodar Sahu and Brothers. (Tel. "Massecuite", Aska.)	Aska.	Ganjam.	Berhampur, B.N.R.		...	100/120*	
2.	Jeypore Sugar Co., Ltd., M/D. G. Subba Roa, B.Sc., C.P.E. (Glasgow), Rayagada (Dist. Koraput.) (Tel. Jeysuco, Rayagada.)	Rayagada.	Koraput.	Rayagada,	Do.	Vizagapatam.	250	

ASSAM

1.	Padmini Sugar Mills, Managing Prop.: Mr. D. R. Roy, Deopani. P. O. Sarupathar (Sibsagar.)	Deopani, P. O. Sarupathar (Tel. Padmini Sugar Mills, Deopani. P. O. Barpathar, A. B. Rly.)	Sibsagar.	Sarupathar.		...	60	S

No.	Name of Factory, with full name and address of Managing Agents or Proprietors	Location	District	Nearest Railway Station	Nearest Steamer Station	Daily cane-crushing capacity (tons)	
	MADRAS						
1.	The Vizagapatam Sugars & Refinery, Ltd., Anakapalle, M/A. Messrs Kantilal Vasantlal & Co., Ltd., Bombay. (Tel. "Sugars", Anakapalle.)	Anakapalle.	Vizagapatam.	Anakapalle, M. & S.M.Rly.	Vizagapatam	200	DS
2.	Etikoppaka Sugar Factory, M/A. The Etikoppaka Co-operative, Agricultural & Industrial Society, Ltd. (Tel. Sugar Factory, Etikoppaka, Narsipatnam Road.)	Etikoppaka.	Do.	Narasapatam Road, Do.	Do.	65	DS
3.	The Sri Rama Sugar Mills, Ltd., Prop.: Raja of Bobbili, Raja of Venkatagiri and Others, Bobbili. (Tel. Sugar, Bobbili.)	Bobbili.	Do.	Bobbili, B.N.R.	...	150	DS
4.	The Sri Rama Sugar Mills, Ltd., Seetanagram.	Seetanagram.	Do.	Seetanagram, Do.	...	300	
5.	The K. C. P. Ltd., Proprietors of Vuyyuru Sugar Factory. (Tel. "Krushna", Vuyyuru.)	Vuyyuru.	Kistna.	Bezwada, M. & S.M.Rly.	...	850/1000	DS
6.	The Kirlampudi Sugar Mills Ltd., M/A. K. V. Subbarao and Company, 99-A, Armenian Street, George Town, Madras.	Kirlampudi.	East Godavari.	Samalkot, Do.	...	150	DS
7.	The Deccan Sugar and Abkari Co., Ltd., M/A. Parry & Co., Ltd., P. B. No. 12, Madras. Tele { Grams: Parry, Madras. Phone: Madras 2983.	Samalkot. (Tel. Deccan, Samalkot.)	Do.	Samalkot, Do.	Cocanada.	Gur CHAR only 40 tons. 250 (Cane).	S

8.	The East India Distilleries and Sugar Factories, Ltd., M/A. Parry & Co., Ltd., P. B. No. 12, Madras. Tele { Grams: Parry, Madras. Phone: Madras 2983.	Nellikuppam. (Tel. Distimulo, Nellikuppam.)	South Arcot.	Nellikuppam, S.I.R.	Cuddalore.	1500*	DS
9.	The India Sugars and Refineries, Ltd., Chairman, Board of Directors: (1) Mr. Rukn-ul-Mulk S. Abdul Wajid, B.A., Chairman and Managing Director, (2) Rao Saheb A. D. Tandu Mudaliar, Managing Director.	Hospet. (Tel. Sugars, Hospet.)	Bellary.	Hospet, M. & S.M.Rly.	...	500*	DS
10.	Coimbatore Co-operative Sugar Manufacturing Society, Ltd., Hony. Secretary: Mr. V. Rangasami Naidu.	Podanur.	Coimbatore.	Podanur, S.I.R.	...	50*	
11.	Al. Vr. St. Sugar Mills & Distillery, Prop.: Al. Vr. St. Veerappa Chettiar, Zamindar of Devaram, Devakottah.	Tachanallur. (Tel. Sugarmill, Tachanallur.)	Tinnevelly.	Tinnevelly Jn. Do.	Tuticorin.	Gur only 16 (Palmyra Jaggery.)	
12.	T. A. Rm. Lakshmi Sugar Mills, Alvartirunagari. (Tel. Luxmi Sugar, Alvartirunagari.)	Near Laksmanatope.	Tinnevelly.	Alvartirunagari.	Tuticorin.	Gur only 6 (Palmyra Jaggery.)	
13.	The Murugappa Sugar Co., Ltd., Mailpatti (N. Arcot.)	Mailpatti.	N. Arcot.	Mailpatti, M.S.M.Ry.	Madras.	Cane 75 Gur 10 (Cane and Palmyra Jaggery.)	
14.	The Southern India Sugar Co., Ltd., 179, Lord Napier Road, Erode.	Murugappapuram, Pugalur Sugar Factory P. O.	Trichinopoly.	Pugalur, S.I.Ry.	Madras.	150 to 300	

BOMBAY

Name of Factory, with full name and address of Managing Agents or Proprietors	*Location*	*District*	*Nearest Railway Station*	*Nearest Steamer Station*	*Daily cane-crushing capacity (tons)*	
1. The Saswad Mali Sugar Factory, Ltd., Head Office: Akluj. M/D. H. B. Girme, Esq., Bombay Office: Sir Vithaldas Chambers, 16, Apollo Street, Fort, Bombay. Tele { Grams: Malisugar, Bombay. Phone: Bombay 20134.	Akluj. (Tel. Malisugar, Akluj.)	Sholapur.	Kurduwadi, G.I.P.Ry. Diksal, G.I.P.Ry.	...	450/500	DS
2. The Brihan Maharashtra Sugar Syndicate, Ltd., M/A. C. G. Agashe & Co., Commonwealth Building, 980, Sadashiv, Laxmi Road, Poona 2. Tele { Grams: Shree, Poona and Akluj. Phone: 9—138.	Borgaon.	Do.	Pandharpur, B.L.R.	...	300/350	DS
3. Walchandnagar Sugar Works of Walchandnagar Industries Ltd., M/A. The Premier Construction Co., Ltd., Construction House, Ballard Estate, Bombay. Tele { Grams: Walsakhar, Bombay. Phone: Bombay 26036, 37, 38, & 39.	P.O. Walchand-nagar (Dt. Poona). (Tel. Walsakhar, Baramati and Walsakhar, Diksal.)	Poona.	Baramati, D.B.R. Diksal, G.I.P.R.	Bombay.	1200	DS
4. The Ravalgaon Sugar Farm, Ltd., M/A. Walchand & Co., Ltd., Construction House, Ballard Estate, Bombay. Tele { Grams: Hincon, Bombay. Phone: Bombay, 26036, 37, 38 & 39.	Ravalgaon, Nasik. (Tel. Ravalgaon Farm, Malegaon Camp.)	Nasik.	Manmad, Do.	Do.	600	DS
5. Shree Changdeo Sugar Mills, M/A. Messrs. A. H. Bhiwandiwala & Co., 32, Apollo Street, Fort, Bombay. (Tele. Jaysugar, Bombay.)	P. O. Changdeo Sugar Factory. (Tele. Sugarmills, Puntamba, G. I. P. R.)	Ahmednagar.	Puntamba, Do.	...	350	DS

6.	The Belapur Co., Ltd., Managers: W. H. Brady & Co., Ltd., Royal Insurance Building, Churchgate Street, Fort, Bombay. Tele { Grams: Brix, Bombay. Tele { Phone: Bombay 25037.	Harigaon. (Tel. Belapur Company, Belapur Road.)	Do.	Belapur,	Do.	...	1000	DS
7.	The Maharashtra Sugar Mills, Ltd., M/A. M. L. Dahanukar & Co., Ltd., Industrial Assurance Building. 3rd Floor, Opposite Churchgate Station, Fort, Bombay. Tele { Grams: Sugarmills, Bombay. Tele { Phone: Bombay 30825.	P. O. Tilaknagar, Belapur Rd. (Tel. Sugarmills, Bela- pur Rd. Phone: Belapur Rd. P. C. O. Extension.)	Do.	Belapur,	Do.	Bombay.	1000/1200	DS
8.	The Belvandi Sugar Farm, Ltd., M/A. M. L. Dahanukar & Co., Ltd., Industrial Assurance Building, 3rd Floor, Opposite Churchgate Station, Fort, Bombay. Tele { Grams: Design, Bombay. Tele { Phone: Bombay 30825.	P. O. Belvandi Sugar Farm. (Tel. Sugarfarm, Belvandi, G. I. P. R.)	Do.	Belvandi,	Do.	Do.	250/300	DS
9.	The Godavari Sugar Mills, Ltd., M/A. K. J. Somaiya & Sons, Fazalbhoy Building, Mahatma Gandhi Road, Fort, Bombay. Tele { Grams: Manikaka, Bombay. Tele { Phone: Bombay 31921.	Sakarwadi.	Do.	Kanhegaon,	Do.	...	750/800.	
10.	The Somaiya Sugar Factory, Controlled by Godavari Sugar Mills, Ltd.	Laxmiwadi Via Kopergaon.	Do.	Kopergaon,	Do.	...	700/750.	
11.	The Ugar Sugar Works, Ltd.	Ugar Khurd.	Belgaum.	Ugar Khurd,	M. S. M. R.	Mormugoa Harbour.	500	DS

Name of Factory, with full name and address of Managing Agents or Proprietors	Location	District	Nearest Railway Station	Nearest Steamer Station	Daily cane-crushing capacity (tons)	
N. W. F. PROVINCE						
1. The Frontier Sugar Mills & Distillery, Ltd. Tele { Grams: Sugar Mills, Takht-i-Bhai. Phone: 27.	Takht-i-Bhai.	Mardan.	Takht-i-Bhai.	...	400	DC/S
INDIAN STATES						
(Kashmir)		*State*				
1. Shree Yuvraj Sugar Mills, Ltd., M/A. M/s. Karam Chand Thapar & Bros., (Jammu & Kashmir) Ltd., Ranbirsinghpura.	Ranbirsinghpura, N. W. Rly.	Jammu & Kashmir State.	Ranbirsinghpura, N. W. R.	Karachi.	600	DC
(Punjab)						
2. Jagatjit Sugar Mills Co., Ltd., M/A. Narang Bros. & Co., Ltd., 3, Montgomery Road, Lahore. Tele { Grams: Narang, Lahore. Phone: Lahore 4614.	Phagwara. (Tel. Sugar Factory, Phagwara. Telephone: Phagwara 101.)	Kapurthala State.	Phagwara, Do.	Do.	750	DC
3. The Paramjit Sugar Factory, The Mahalaxmi Sugar Mills Co., Ltd.	Hamira, P. O. Kapurthala.	Kapurthala State.	Hamira, Do.	Do.	1200/1800	
(United Provinces)						
4. Raza Sugar Co., Ltd., M/A. Govan Bros. (Rampur), Ltd., Rampur State. (Telephone: 291).	Rampur. (Tel. Razaco, Rampur Tele.: 332.)	Rampur State.	Rampur, E. I. R.	Buxar.	1100	DS
5. Buland Sugar Co., Ltd., M/A. Govan Bros. (Rampur), Ltd., Rampur State. (Telephone: 291).	Rampur. (Tel. Buland, Rampur State. Tele: 276.)	Rampur State.	Do. Do.	Do.	1100	DC

			(Travancore)				
6.	The Travancore Sugars & Chemicals, Ltd., Secretaries & Treasurers: Parry & Co., Ltd., P. B. No. 12, Madras. Tele { Grams: Parry, Madras. Phone: Madras 2983.	Thuckalay. (Tel. Sugars, Thuckalay. Telephone: Trivandrum 280.)	Travancore State.	Trivandrum, S. I. R.	Trivandrum.	Gur only 18 (Palmyra Jaggery.)	
			(Mysore)				
7.	Mysore Sugar Co., Ltd., H.O. Sri Jayachamaraja Wadiyar Road, Bangalore City. Tele { Grams: Mysugar, Bangalore. Phone: 2133.	Mandya. (Tel. Mysugar, Mandya.)	Mysore State.	Mandya, M. S. R.	...	1400	DS
			(Bombay)				
8.	The Kolhapur Sugar Mills, Ltd., M/A. The United Agencies, Ltd., Shahupuri, Kolhapur. Tele { Grams: Sugar Mills. Phone: 298 (Kolhapur).	Kolhapur. (Tel. Sugar Mills.)	Kolhapur State.	Kolhapur, M. & S. M. Rly.	Bombay.	500	DS
9.	The Phaltan Sugar Works, Ltd., M/A. Mafatlal, Apte & Kantilal, Ltd., Sakharwadi, Satara.	Sakharwadi, Phaltan State. (Tel. Sakhar, Phaltan.)	Phaltan State.	Nira, Do.	Bombay.	625/650	
10.	Krishna Sugar Mills, Ltd., M/A. M/S. Vinchurkar & Co., Kittur, Via Kudchi. (Tele. Krishna Sugar, Kudchi.)	Kittur.	Miraj Jr. State.	Kudchi, Do.	Bombay.	200	DS
			(Central India)				
11.	The Jaora Sugar Mills, Prop.: Kalooram Govindram, Jaora, C. I. (Telegram: Sugar, Jaora.)	Jaora.	Jaora State.	Jaora, B. B. & C. I. Rly.	Bombay.	600	DS

	Name of Factory, with full name and address of Managing Agents or Proprietors	Location	State	Nearest Railway Station	Nearest Steamer Station	Daily cane-crushing capacity (tons)	
12.	Bhopal State Sugar Industries, Ltd., M/A. M/s. A. H. Bhivandiwala & Co., Motilal Mansion, 32, Apollo Street, Fort, Bombay.	Sehore.	Bhopal State.	Sehore, G. I. P. Rly.	...	750	DS
13.	Shri Lakshmi Narayan Sugar Works, Ltd., M/A. Gupta Bros & Co., Harpalpur (Budelkhand), C. I.	Harpalpur. (Tel. Laxmichini, Harpalpur.)	Alipura State.	Harpalpur, G. I. P. Rly.	...	100	S
14.	The Gwalior Sugar & Co., Ltd., Dabra (Gwalior), M/A. Govan Brothers, Ltd., Scindia House, New Delhi.	Dabra	Gwalior State.	Dabra, G. I. P. Rly.	...	750	DC & DS
15.‡	Maharani Parbati Sugar Mills, Ltd., (Tel. Sugarmills, Sarangpur.)	P. O. & Tel. Office Sarangpur.	Devas State, J. B.	Bercha, Do.	...	100	
16.‡	Dewas Sugar Mills, Dewas.	Dewas.	Dewas Senior.	Nagda Jn.	...	500	DS
17.‡	Ratlam Sugar Mills Co., Ltd., M/A. Sir Gokulchand Narang & Sons.	Ratlam.	Ratlam State.	Ratlam, B. B. & C. I. Rly.	...	500	
18.	§Seth Govindram Sugar Mills, Prop. : Seth Nandlalji Bachulalji.	Mahidpur Road.	Holkar State.	Mahidpur Road, B. B. & C. I. Rly.	Bombay	300	
		(Rajputana)					
19.†	Sri Ganganagar Sugar Mills, Ltd., M/A. Seth Sunder Singh.	Ganganagar	Bikaner State.	...	...	600	DS
20.	The Mewar Sugar Mills, Ltd., M/A. Dhandhania Kedia & Co., Bhupalsagar (Udaipur State).	Bhupalsagar. (Tel. Sugarmill.)	Udaipur State.	Bhupalsagar Me. S. R.	Bombay	300	DS

§ Worked for a few days only.

(Hyderabad)

21.	The Nizam Sugar Factory, Ltd., M/A. H.E.H. The Nizam's Industrial Trust Fund, Represented by the Hyderabad Construction Co., Ltd., Abid Rd., Hyderabad. (Telephone: Hyderabad (Deccan).2766.)	Sakarnagar. (Tel. Sugar.)	Hyderabad State.	Sakarnagar Station (Nizam St. Rly.)	...	1300/1500	DS
22.‡	The Salar Jung Sugar Mills, Ltd., Managing Agents: M/S. Agadi & Co., 209, Station Road, Hyderabad (Dn.)	Hyderabad.	Munirabad.	Hyderabad.	Munirabad, M. & S.M.R.	250	DS

BURMA

1.†	The Sahmaw Sugar Factory of the Burma Sugar Co., Ltd., (Tel. Colberfeld, Rangoon).	Sahmaw. (Tel. Shortis, Sahmaw.)	District Myitkyina.	Sohmaw, Burma Rly.	...	900	DS
2.†	New Burma Amrit Sugar Mills, Ltd., M/A. Amritlal Ojha & Co. (Burma) Ltd., 619, Merchant Street, Rangoon. (Tel. Ojhaco, Rangoon.)	Hninpale. P. O. Bilin. (Tel. Amrit Sugar Works.)	Thaton (L. Burma.)	Hninpale. Do.	...	400	DS
3.	† The Zeyawadi Sugar Factory, Ltd., M/D. Chandradeva Prakash Sinha, Esq., Zeyawadi (Burma). (Tel. Prakash, Rangoon.)	Zeyawadi. (Tel. Sugar, Zeyawadi.)	Toungoo.	Zeyawadi.	Rangoon.	1000/1200	DS

PROVINCIAL DISTRIBUTION
OF
SUGAR MILLS IN INDIA
(1944)

Province		Cane Factories	Gur Refineries only	TOTAL
Bengal	... ...	9	...	9
Bihar	... ...	31	1	32
United Provinces	... ...	73	3	76
Punjab	... ...	3	1	4
Madras	... ...	11	3	14
Bombay	... ...	11	...	11
Assam	... ...	1	...	1
Orissa	... ...	2	...	2
N. W. F. P.	... ...	1	...	1
Indian States	... ...	21	1	22
	TOTAL ...	163	9	172

Burma	... ...	3	...	3

No. of Factories (including Gur Refineries) actually working in the season 1943-44 was about ... 157

No. of Factories (including Gur Refineries) that did not work during the season 1943-44 (Factories under construction included) 15

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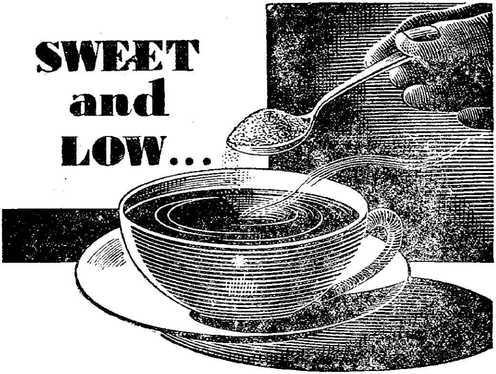

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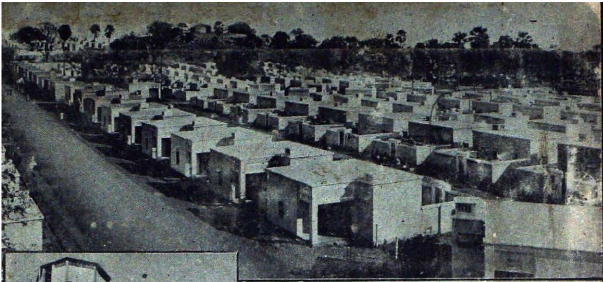

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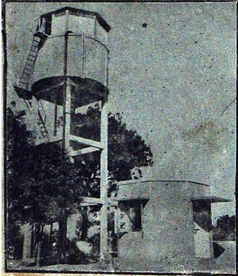

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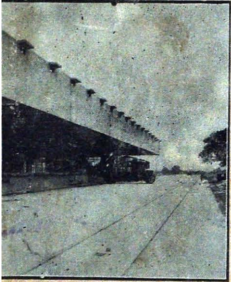

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